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## Technical Note

## 1966-11

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J. D. Drinan

## Haystack Pointing System: Print Program

9 March 1966

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Prepared under Electronic Systems Division Contract AF 19(628)-5167 by

## Lincoln Laboratory

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Lexington, Massachusetts



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MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
LINCOLN LABORATORY

HAYSTACK POINTING SYSTEM: PRINT PROGRAM

*J. D. DRINAN*

*Group 62*

TECHNICAL NOTE 1966-11

9 MARCH 1966

LEXINGTON

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## ABSTRACT

During the operation of the Haystack Pointing System, variable amounts of system generated data are recorded on magnetic tape for purposes of later reconstruction of the pointing aspect of the experiment. The Print Program, a pseudo-celestial computation program, is the means whereby this system data, recorded during actual system operation or during a system planning run, is reconstituted in the form of print-outs for immediate inspection or as BCD magnetic tape equivalents of the print-outs for remote printing and for input to other programs. The Print Program provides a variety of operation options which can be altered dynamically.

Accepted for the Air Force  
Franklin C. Hudson  
Chief, Lincoln Laboratory Office

## HAYSTACK POINTING SYSTEM: PRINT PROGRAM

### INTRODUCTION

The Print Program (PP) is the means whereby system data, recorded on magnetic tape during actual system operation or during a system planning run, is converted to on-line print-outs for visual inspection and to BCD magnetic tape equivalents of the print-outs for remote printing as well as for input to other programs.

PP resides on the master bootstrap tape as a pseudo-celestial computation program as a matter of convenience in calling the program to operate after system operation is completed.

PP uses the Printer Package\* subroutine and a right ascension-declination conversion routine adapted from the Right Ascension-Declination Display Program.<sup>†</sup>

### INPUT

Primary input to PP is the system produced high density (556 lpi) binary tape written by the system subprogram RECORDING.<sup>‡</sup> PP is concerned with only two types of records on this tape. The first type is the so-called title record which contains the titling information supplied by the experimenter and certain other pertinent data. This record is viewed by PP as a "Logical file" separator and is recognized as such by the fact that the first word contains the five Fielddata character representation of TITLE. The second type is the record which contains all of or a selected part of the portions of Common Storage (C/S) necessary to produce the desired output. The first word identifier for this record is MCPGM.

These two classes of records contain all of standard system generated information necessary to reconstruct the pointing aspect of the experiment. Data processing programs are free to avail themselves of the recording facility provided by the system and thereby record information on the system data recording tape. PP, however, was designed to interpret the format unique to the system data and consequently ignores non-system records.

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\*See Reference 1.

†See Reference 2.

‡See Reference 3.

Input information to PP is also supplied by the user via the keyboard. This will be discussed in the Operation section below.

## OUTPUT

The user may elect to get his print-out directly on the high-speed printer or he may choose to produce an IBM-compatible BCD magnetic tape or he may get both of these simultaneously. Various control options which govern the format and amount of output are offered. These are discussed in the Operation section below.

Figure 1 shows a sample output of the program. The labeling and the units used are described in Appendix A.

## OPERATION

The Print Program is a non-real-time program which is normally called to operation after the dynamic system has completed a run and has produced a magnetic tape recording which serves as input to PP. The usual manner in which the Master Control Program\* (MCP) brings PP into core memory from the master bootstrap tape is via the attention symbol sequence.

Once MCP has read PP into core the role of control program is taken over by PP. This arrangement makes it possible for the user to communicate via the attention symbol with PP as the recorded data is being processed in the very same manner as the experimenter was able to communicate with MCP while the experiment was in progress.

When PP assumes control then, one of the very first things done is the setting up of a new intercom interlace<sup>†</sup> establishing PP as the control program. From this point until a return is made to the system proper, hitting the attention key will cause the following typeout:

TO SYSTEM(0) NEXT 'FILE'(1) NEW TIMES(2)

If the user elects choice (0) an exit is made to MCP and the system is ready for the next experiment with the recording tape returned to the load point for re-recording.

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\*See Reference 4.

†See Reference 4 and 5.

LES II													
MAY 21, 1965 SATELLITE SYSTEM													
HH	MM	SS	RA(DEC)	DEC(UEG)	DISTANCE	DISTDOT	RADOT	AZIM	ELEV	CAZIM	TRUERANGE	RA(HMS)	DEC(DMS)
19	26	55	42.7534	10.4070	2.83677363	-0.80338	1.8777370	254.2753	11.1016	254.2753	2.4691207	2 51 0.83	10 24 25.3
SRA	SDEC	CRANGE	RANGEDOT	DEC DOT	SAZIM	SELEV	CELEV	SIDERTIME					
42.7534	10.4070	525105	-0.77916	-1.1089678	254.2753	11.1016	254.2753	11.1020	99.4627				

LES II													
MAY 21, 1965 SATELLITE SYSTEM													
HH	MM	SS	RA(DEC)	DEC(UEG)	DISTANCE	DISTDOT	RADOT	AZIM	ELEV	CAZIM	TRUERANGE	RA(HMS)	DEC(DMS)
19	26	57	42.7753	10.3943	2.83630705	-0.80377	1.8782773	254.2538	11.0986	254.2538	2.4636687	2 51 6.8	10 23 39.5
SRA	SDEC	CRANGE	RANGEDOT	DEC DOT	SAZIM	SELEV	CELEV	SIDERTIME					
42.7753	10.3943	525009	-0.77943	-1.1094618	254.2538	11.0986	254.2538	11.1991	99.4711				

LES II												
MAY 21, 1965 SATELLITE SYSTEM												
TIME	INCOMING	INCOMING	COMMAND	COMMAND	RECV'D R/A	RECV'D DECLN	COMMAND	R/A	COMMAND	DECLN	COMMAND	DOPLR MODES
SECS	AZIMUTH	ELEVATION	AZIMUTH	ELEVATION	HH MM SS.S	DDD MM SS.S	HH MM SS.S	HH MM SS.S	DDD MM SS.S	HH MM SS.S	CYCLES/SEC.	ABCDE
0.000*254.2751	11.2019	254.2751	11.2019	254.2751	2 51 15.25	10 27 49.7	2 51 15.25	10 27 49.7	2 51 15.25	10 27 49.7	74567	
0.400*254.2710	11.2012	254.2710	11.2012	254.2710	2 51 16.15	10 27 39.2	2 51 16.15	10 27 39.2	2 51 16.15	10 27 39.2	74572	
0.800*254.2663	11.2006	254.2663	11.2006	254.2663	2 51 17.5	10 27 28.6	2 51 17.5	10 27 28.6	2 51 17.5	10 27 28.6	74578	
1.200*254.2623	11.2006	254.2623	11.2006	254.2623	2 51 18.4	10 27 19.5	2 51 18.4	10 27 19.5	2 51 18.4	10 27 18.0	74583	
1.600*254.2580	11.1999	254.2580	11.1999	254.2580	2 51 19.4	10 27 7.5	2 51 19.4	10 27 7.5	2 51 19.4	10 27 7.5	74588	

Fig. 1. Sample output of Print Program.

A choice of (1) will cause PP to search for the next logical file on the recording tape identified by the code word TITLE as the first word in the record. When the next "file" is located PP will issue a subset of the typeouts and questions that are output when the first logical file is about to be processed. (This set of typeouts is described below.) When "new times", choice (2) is elected PP will initiate another subset of the original line of questioning.

The balance of this memo concerns itself with question-answer sequence one encounters when using PP to process the system data tape. At this point we shall assume that the experiment has been concluded and the user has directed the control program to load PP into memory.

At the outset, PP now established as the control program senses whether or not the recording program has finalized the recording tape and if not will ask:

TAPE IS OK(0) REWIND IT(1) END FILE & REWIND(2)

PP will take whatever action is indicated by the user. Now the question of output media comes up, whether direct high-speed printer or BCD tape or both - hence the question:

ELECT O/P... HSP(0) BCD TAPE(1) BOTH(2)

Here, of course, the user must indicate the type of output(s) he desired.

Next, as a memory jog, the typeout:

SET TOP OF PAGE CLEAR PRINTER CHANNEL

Now PP begins a search of the tape for the first TITLE record. When it is located PP prepares the heading record which appears ahead of each frame. In Fig. 1 this is the line containing LES 2 as the titling information along with Friday May 21, 1964 SATELLITE SYSTM, the other pertinent information in the title record. At this point PP types out:

TITLE FOLLOWS

followed by the actual titling information entered earlier by the experimenter. In the example at hand this would be:

LES II

Now comes the question:

GMT START(HHMMSS)

to which the user may enter a time to start (and PP will skip over previously recorded data) or he may implicitly state "at the beginning" by simply answering with a carriage return. Next comes the companion question:

GMT END(HHMMSS)

and here again the user may elect a specific time to stop or implicitly indicate "to the end" with the carriage return reply. Now the question:

FOR EVERY NTH DATUM ENTER N(0-500)

Here the user must indicate how much (if any) of the interpolated data he wishes to be printed out. For every frame (2 seconds in real time) there are available the directly computed quantities as well as 500 interpolated command azimuth and elevation angles, the corresponding 500 incoming azimuth and elevation angles plus 500 interpolated doppler values. If the user wishes every interpolated point to be printed, he would enter N as 1 and every 1<sup>th</sup> point is output. On the other hand, if he chose N as 500 he would see only the first interpolated point (as well as the entire array of 2 second computed data whose output is non selectable). By convention N = 0 will eliminate all interpolated data from the output.

At this point, PP is ready to commence processing the data on the recording tape. In a steady state condition PP is time equating data which appeared in three separate input records. For the incoming azimuth and elevation angles, the record just read in is used; for the command azimuth and elevation angles the penultimate record is the source and for the two second directly computed values the data saved from the third record back is used.

In general, the program will continue to cycle and output in this manner until one of four things occur. The first, an end of file mark on the input tape will result in the typeout:

END OF FILE...RETURNING TO SYSTEM

Here control is returned to MCP, the input tape is returned to the load point and the system is ready to recycle.

The second source of interruption occurs when PP has come to a specified time to stop (GMT END(HHMMSS)).

In this case PP types out:

DONE....

followed by the typeout normally occasioned by striking the attention key i.e.

TO SYSTEM(0) NEXT 'FILE'(1) NEW TIMES(2)

Again the user must decide what is to be done.

The next way in which the cycle is disrupted occurs when PP encounters a new "logical file" on the input tape. This causes PP to terminate processing on the current file and proceed with the typeout/question sequence starting with

TITLE FOLLOWS

The remaining way in which processing is interrupted is, of course, by the user himself striking the attention key.

The flow diagram and listing of the Print Program follow Appendix A.

## APPENDIX A

The sample print-out in Fig. 1 shows 4 seconds worth of real-time pointing information in two 2 second frames. Each frame begins with a title line which gives the identification information (here the caption LES II) supplied by the user followed by the day of the week, the date and the particular celestial computation program chosen by the user.

The pointing information for each frame is broken down into two categories, the "two second" direct-computation data followed by the interpolated data.

### Two Second Data

HHMMSS	... Greenwich mean time at the start of the frame. (Time in C/S TRUETIME). This is the reference time for this frame.
RA(DEG)	and further to the right of the page on the same line
RA(HMS)	... Right ascension of the body at reference time in degrees and in hours, minutes, and seconds respectively.
DEC(DEG)	and further to the right of the page on the same line
DEC(DMS)	... Declination of the body at reference time in degrees and in degrees, minutes and seconds respectively.
DISTANCE	... The distance from geocenter to center of the body at reference time in earth radii for near-earth satellites and the moon; in astronomical units for the sun and planets. For stars an arbitrary zero is printed.
DISTDOT	... Numerical derivative of DISTANCE in nautical miles per second.
RADOT	... Numerical derivative of right ascension in radians per second. N. B. This quantity is taken from C/S register RADOT which contains $\dot{\alpha} \cos \delta$ . A planned change to PP will remove the $\cos \delta$ factor.
AZIM	... Computed azimuth in degrees.
ELEV	... Computed elevation in degrees.
CAZIM	... AZIM with corrections in degrees.
TRUE RANGE	... Range of the body from the site with same units conventions described under DISTANCE.
SRA	... Right ascension in degrees with scan added.

SDEC	...	Declination in degrees with scan added.
CRANGE	...	Corrected range in radar units.
RANGEDOT	...	Time derivative of range in nautical miles per second.
DECDOT	...	Time derivative of declination in radians per second.
SAZIM	...	Azimuth in degrees with scan added.
SELEV	...	Elevation in degrees with scan added.
CELEV	...	Elevation in degrees with corrections added.
SIDERTIME	...	Right ascension of the site in degrees at CONVERTIME.

#### Interpolated Data

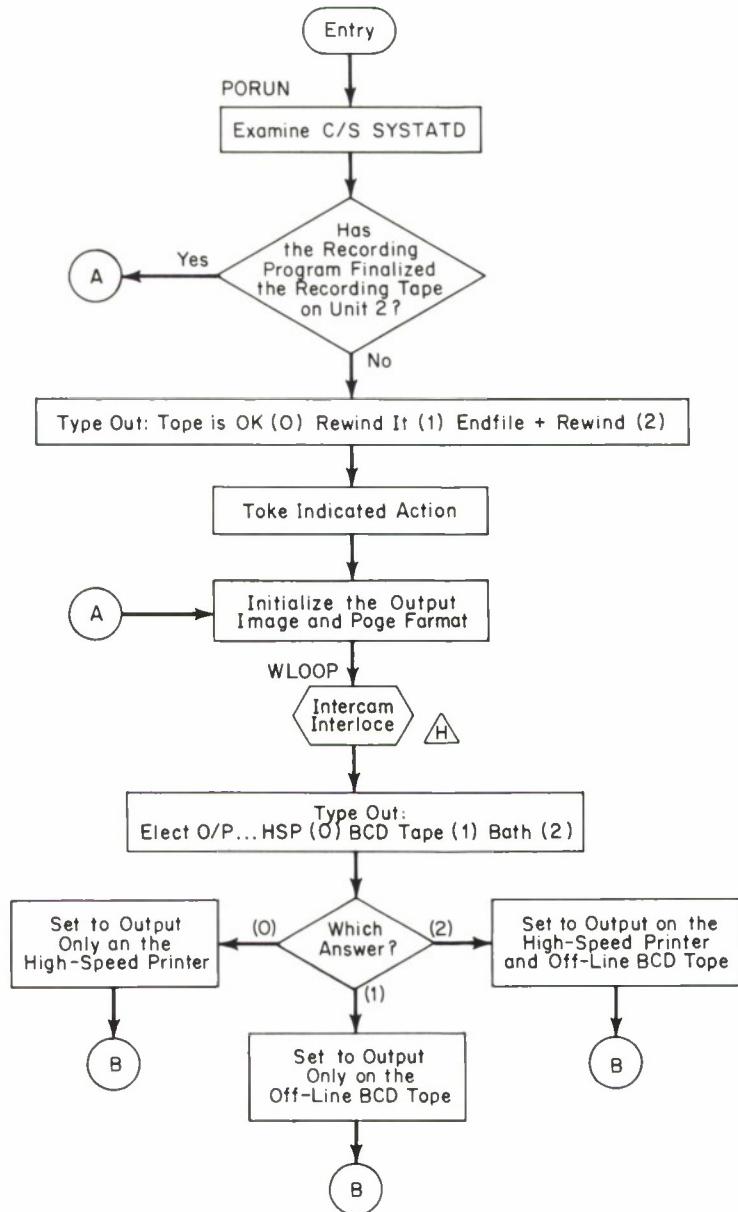
TIME	...	
SECS	...	Elapsed time in seconds (for real time) from HH MM SS (TRUETIME given above).
INCOMING AZIMUTH	...	Actual antenna position in degrees at indicated time. An * preceding the value indicates azimuth overlap zone.
INCOMING ELEVATION	...	Analogous to incoming azimuth.
COMMAND AZIMUTH	...	Interpolated azimuth value in degrees sent to the antenna at the indicated time.
COMMAND ELEVATION	...	Analogous to azimuth.
RECVD R/A HH MM SS. SS		
and		
RECVD DECLN		
DDD MM SS.S	...	Actual antenna position in the right ascension-declination coordinate system.
COMND R/A HH MM SS		
and		
COMND DECLN		
DDD MM SS.S	...	The position in celestial coordinates to which the antenna was being directed.

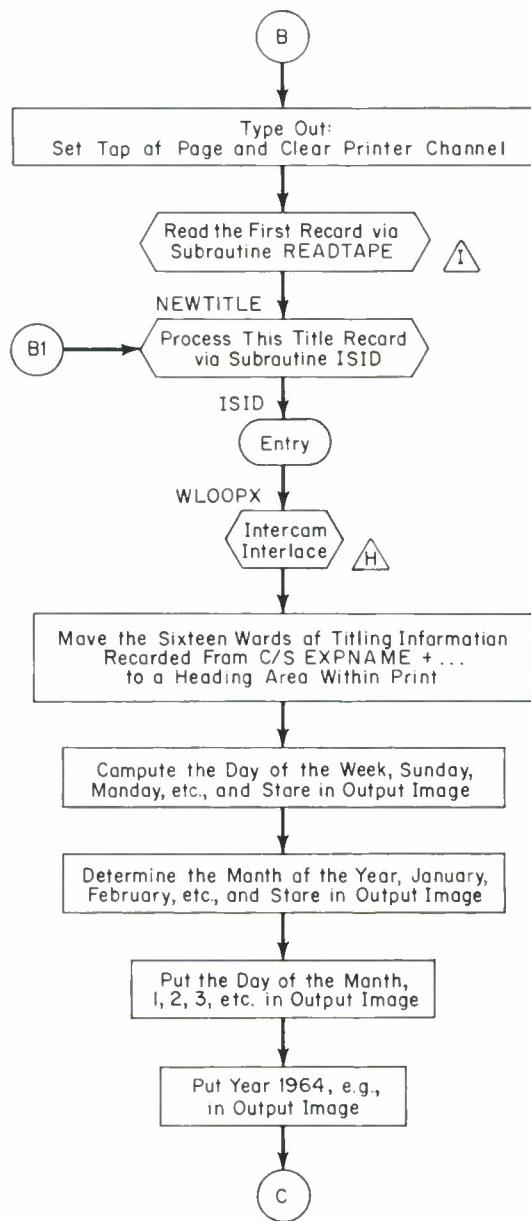
CMND DOPLR  
CYCLES/SEC . . . Doppler frequency in cycles per second.

MODES  
ABCDE . . . Mode switches setting. Not currently used.

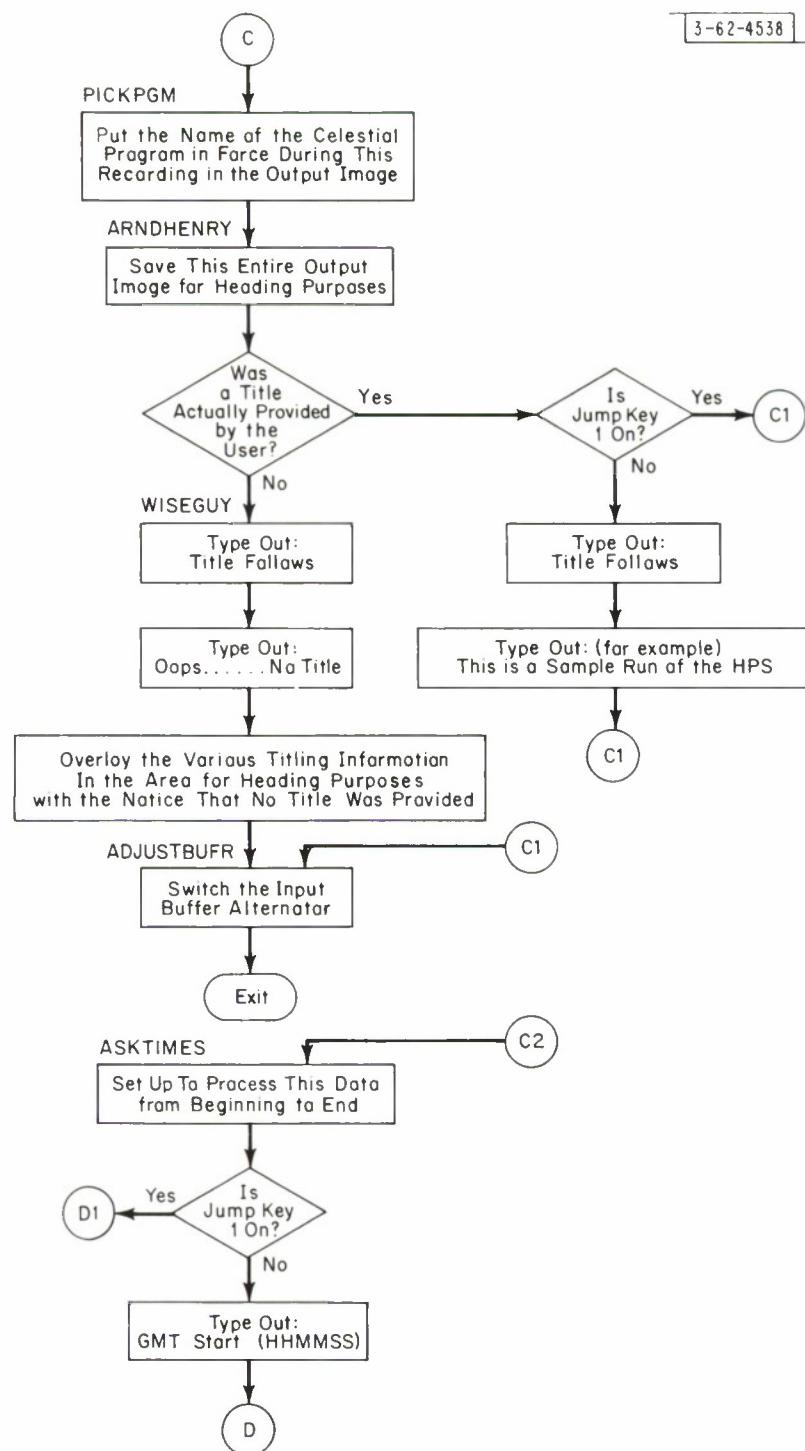
PRINT PROGRAM: FLOW CHART

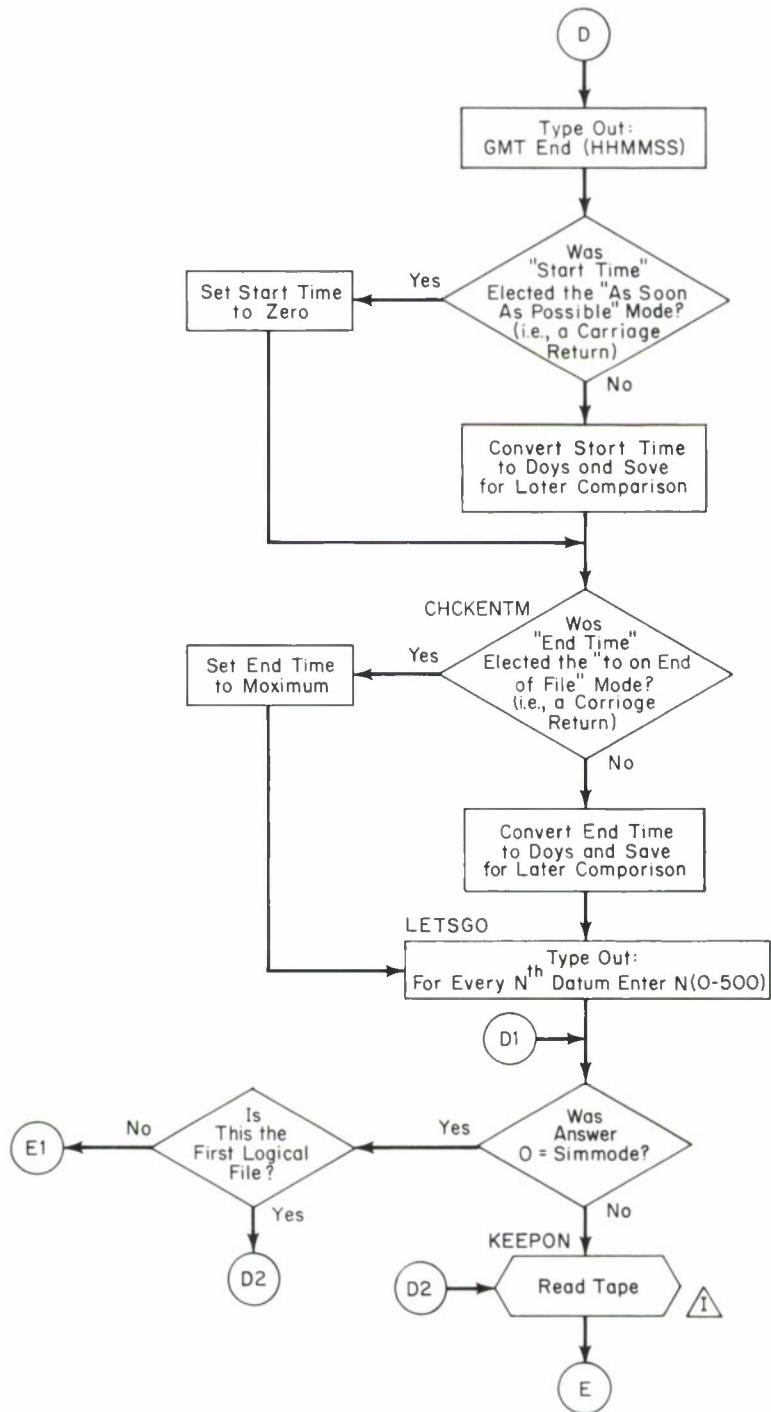
3-62-4536

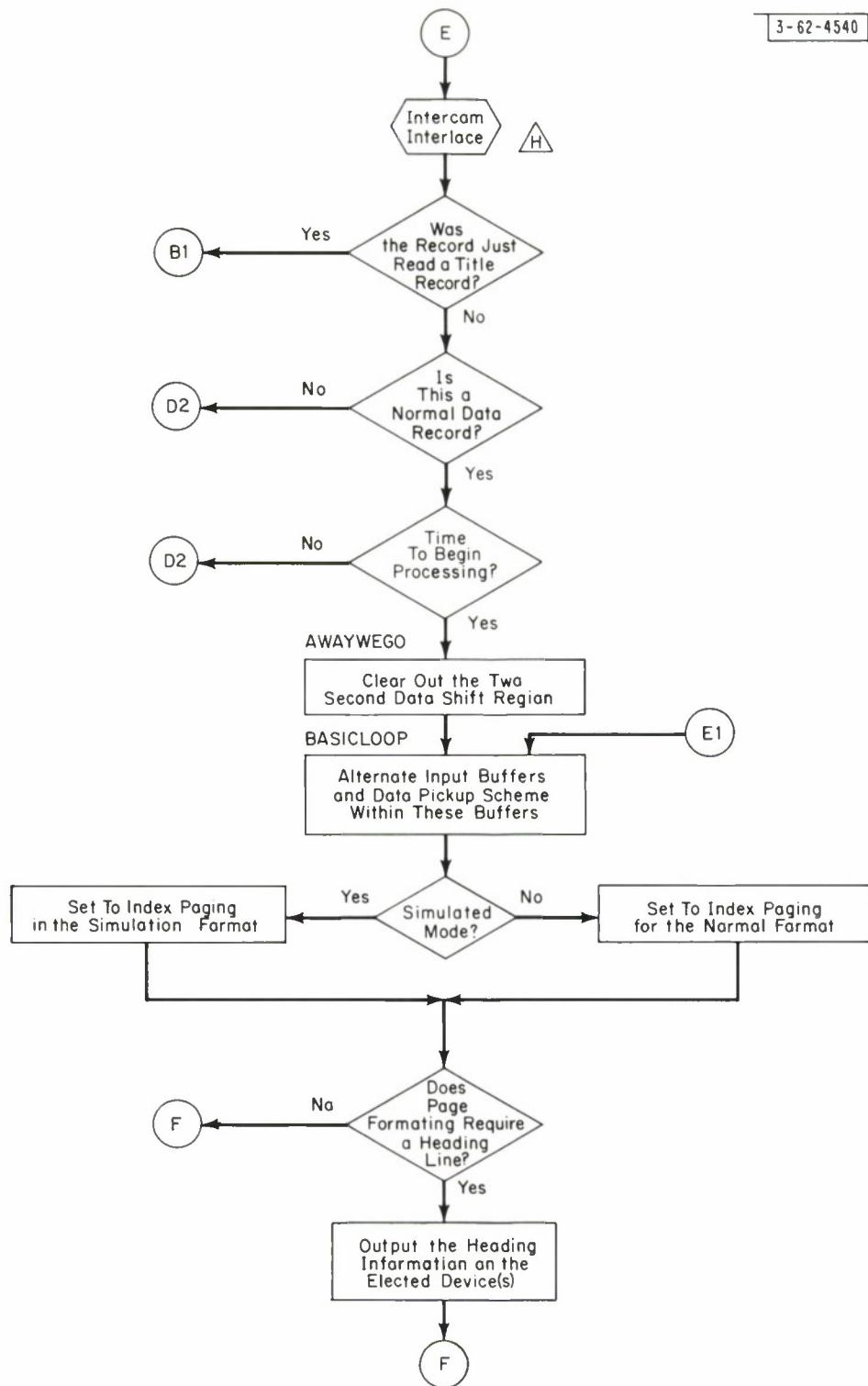


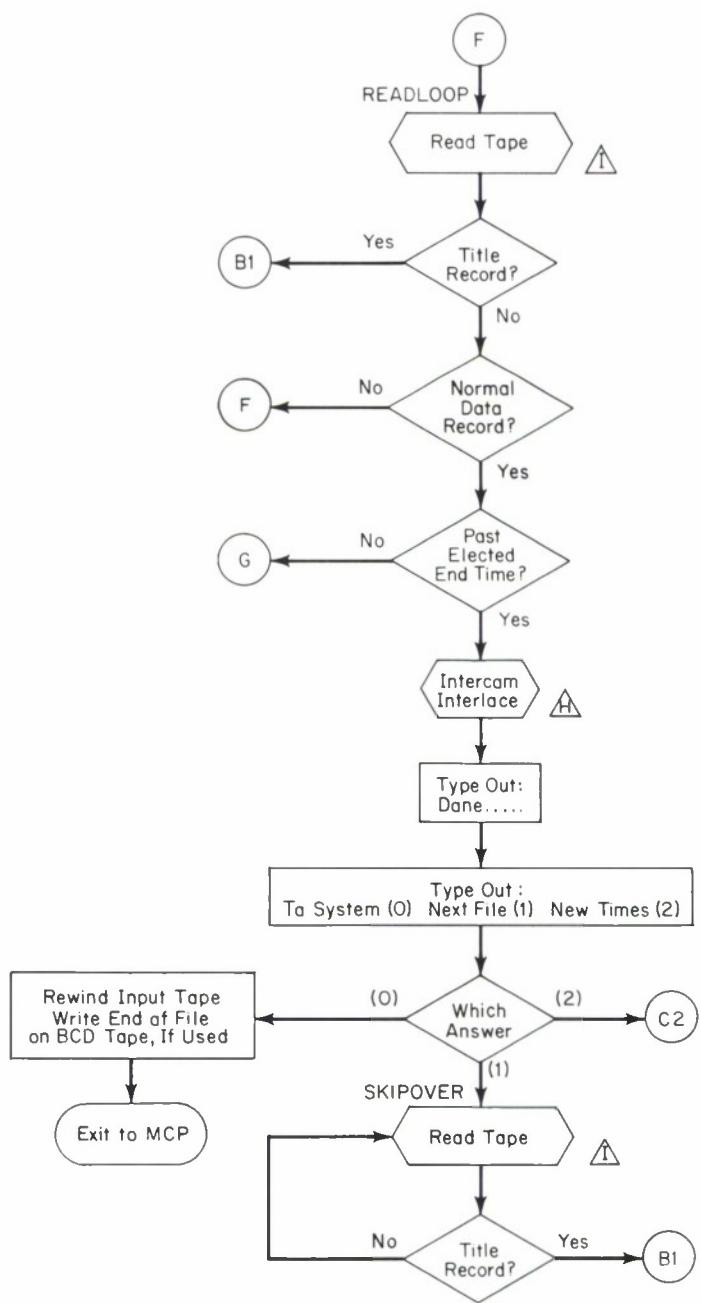


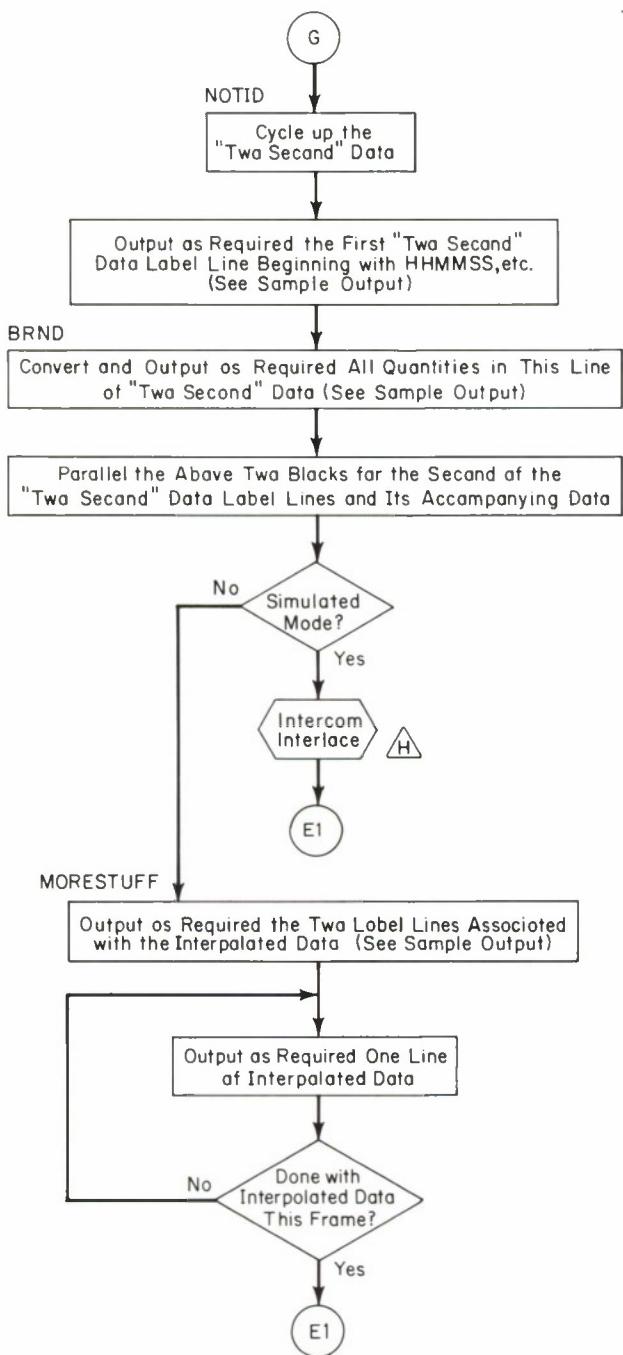
3-62-4538





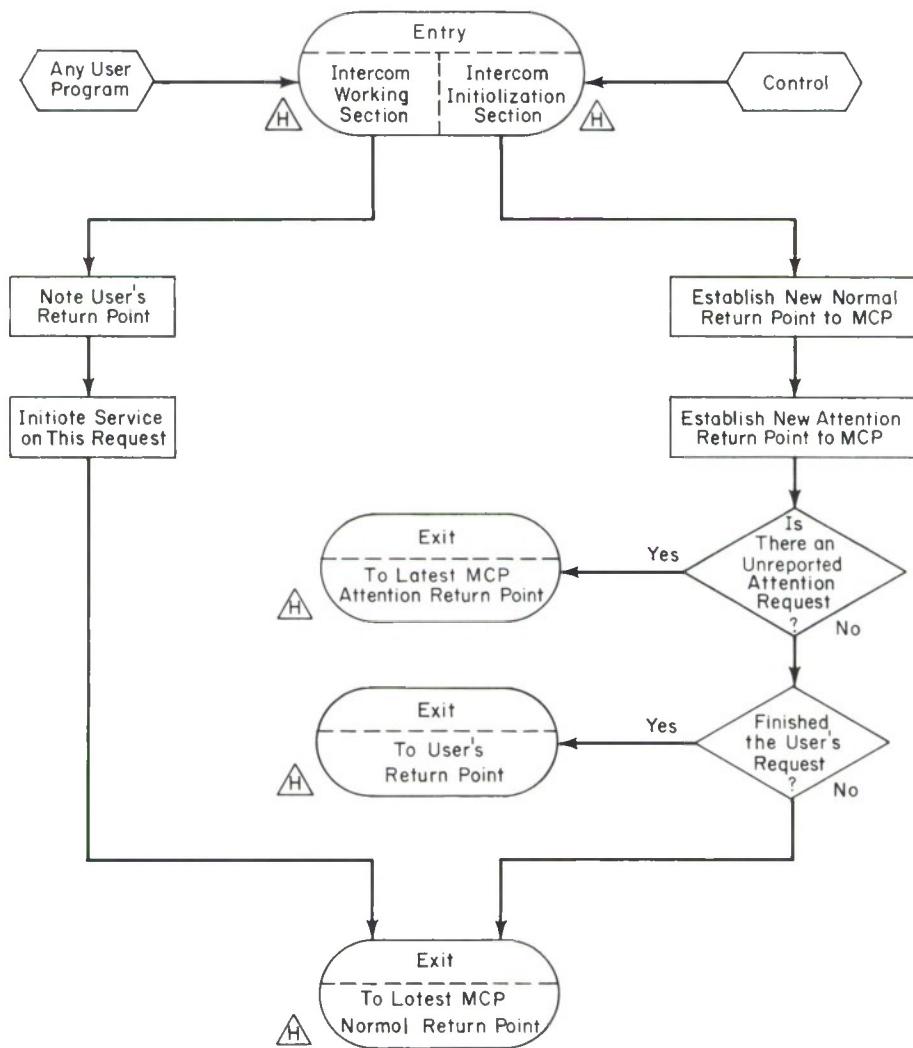






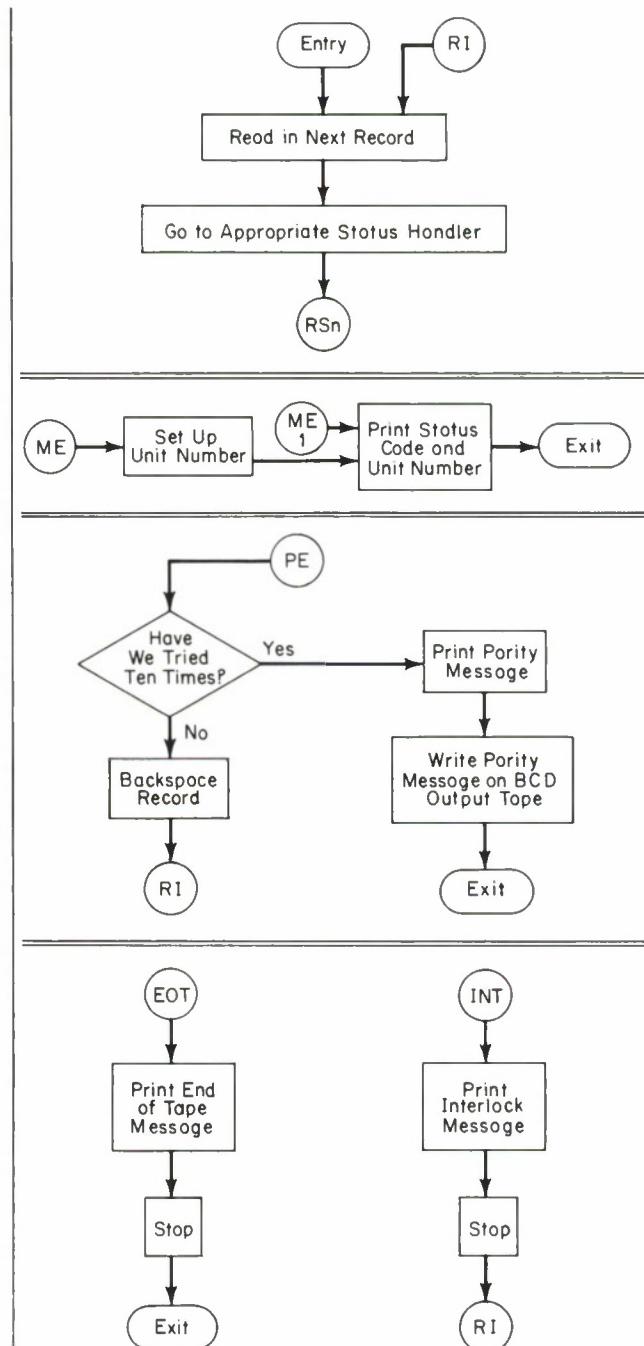
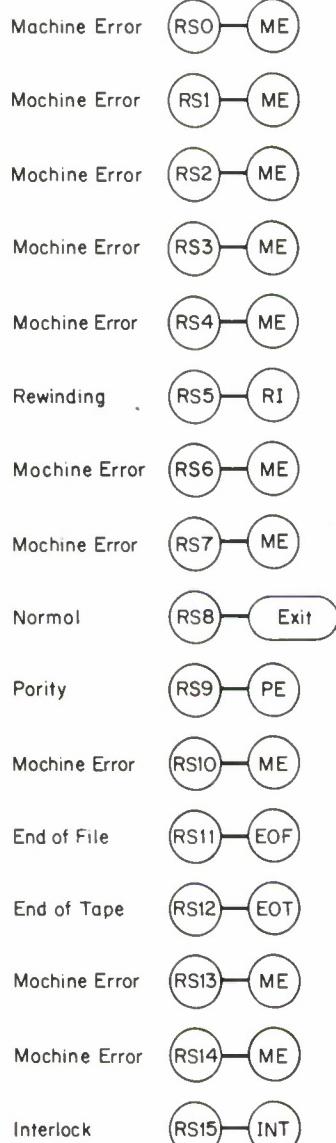
## INTERCOM INTERLACE

3-65-4543



## READ ROUTINE

3-62-4544



\*\*\*\*\* PRINTOUT \*\*\*\*\*

SPURT OUTPUT NO. 210  
J00\*1/22/65

CAROS	L1	L0	LABEL	TA STATEMENT	LOC	F	J	K	R	Y	NOTES
	*	00000	PRINTOUT	PROGRAM J00*1/22/65							
	*	00001	TAPE	MEANS C15							
	*	00002	TYPE	MEANS C2							
	*	00003	HSP	MEANS C3							
	*	00004	FRPERPAGE	EQUALS 7 101CELOR							
	*	00005	DATA	EQUALS MCPFILLER							
	*	00006	DATA2	EQUALS MCPFILLER-101CELOR							
	*	00007	DELTAO	PUT RUN•PORUN							
	*	00010	PRINTOUT	U-TAG FO I-PRINT							
	*	00011		ENTRY PUT FRPERPAGE•L(TITLECNT)							
	*	00012	PORUN								
	*	00013									
	*	00014		CL W(SIMSWITCH) A•W(SYSTATO)*AZERO							
	*	00015		ENT JP NOREW							
	*	00016		CL W(REWYORN)							
	*	00017		RJP U(INTERCOM)							
	*	00020		U-TAG TOREWA•TOREWA							
	*	00021		ENT A•L(REWYORN)*ANOT							
	*	00022		JP NOREW							
	*	00023		PUT W(WHERETOGO)*W(351)							
	*	00024									
	*	00025		SUB A•L*ANOT							
	*	00026		JP FILEONE							
	*	00027		EX-FACT JP \$ TAPE•12300000004							
	*	00028		STR TAPE•W(STAT)							
	*	00029		PUT NOREW•L(351)							
	*	00030									
	*	00031		FILEONE							
	*	00032									
	*	00033		EX-FACT JP \$ TAPE•3010000004							
	*	00034		STR TAPE•W(STAT)							
	*	00035		RJP PIMAGE							
	*	00036		O MYOUT							
	*	00037		RJP E							
	*	00040		RJP PFORM							
	*	00041		5 2							
	*	00042		RJP E							
	*	00043		RJP PBLANK							
	*	00044		1 1280							
	*	00045		RJP E							
	*	00046		PUT 12000•U(INSERT)							
	*	00047		RESTART							
	*	00050		WLOOP RJP L(INTERCOM)							
	*	00051		RJP WHATOO							
	*	00052		NO-OP							
	*	00053		PUT W(INSERT)•W(INSERT)							
	*	00054		CL W(ANSOUTPUT)							
	*	00055		CL W(HSPOUTPUT)							
	*	00056		STR BO•CPW{BCOOUTPUT}							

\*\*\*\*\*

IS -0 IF RECD HAS FINALIZED

0 = HSP OUTPUT  
-0 = NO BC00UTPJT

SPURT OUTPUT NO. 210  
 J00\*1722/65

CARDS	L1	I0	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
			00057	RJP	U(INTERCOM) BCDQUES*BCOANS	00054	65020	53426		
			00060	ENT	A*W(LANSOUTPUT 1*ANOT	00055	03372	03406		
			00061	JP	STANOEQSE	00056	11530	03412	JUST HSP	
			00062	SUB	A*1*ANOT	00057	61000	00071		
			00063	STR	BO*CM(HSPOUTPUT1	00060	21500	00001		
			00064	CL	W(BCOOUTPUT1	00061	16070	03370	WAS 1 = JUST BCO	
			00065	ENT	A*L(LANSOUTPUT)	00062	16030	03371	WAS 2 = BOTH	
			00066	SUB	A*1*AZERO	00063	11010	03412		
			00067	JP	STANOEQSE	00064	21400	00001		
			00070	PUT	90*L(TITLECNT1	00065	61000	00071	IS BCO ONLY INCREASE LINES/PAG	
			00071			00066	10000	03001	F	
						00067	14010	02027		
						00070	14010	03274		
						00071	65020	53426		
						00072	01770	00000		
						00073	65000	03074		
						00074	72640	63000		
						00075	11030	53000	IS TITLE RECORD	
						00076	21430	04415		
						00077	61000	00073		
						00078	65000	01403		
						00079	16070	04502		
						00080	16070	04517		
						00081	61100	00166		
						00082	65020	53426		
						00083	04467	04476		
						00084	65020	53426		
						00085	04503	04512		
						00086	10230	04502		
						00087	61000			
						00088	11000	00000		
						00089	23000	23420		
						00090	14030	04523		
						00091	15000	00000		
						00092	11000	00000		
						00093	23000	00144		
						00094	14030	04524		
						00095	15030	04525		
						00096	10030	04523		
						00097	22000	07020		
						00098	14030	04531		
						00099	10030	04524		
						00100	10030	04524		
						00101	10030	04524		
						00102	10030	04524		
						00103	10030	04524		
						00104	10030	04524		
						00105	10030	04524		
						00106	10030	04524		
						00107	10030	04524		
						00108	10030	04524		
						00109	10030	04524		
						00110	10030	04524		
						00111	10030	04524		
						00112	10030	04524		
						00113	10030	04524		
						00114	10030	04524		
						00115	10030	04524		
						00116	10030	04524		
						00117	10030	04524		
						00118	10030	04524		
						00119	10030	04524		
						00120	10030	04524		
						00121	10030	04524		
						00122	10030	04524		
						00123	10030	04524		
						00124	10030	04524		
						00125	10030	04524		
						00126	10030	04524		
						00127	10030	04524		
						00128	10030	04524		
						00129	10030	04524		
						00130	10030	04524		
						00131	10030	04524		
						00132	10030	04524		
						00133	10030	04524		
						00134	10030	04524		
						00135	10030	04524		
						00136	10030	04524		
						00137	10030	04524		
						00138	10030	04524		
						00139	10030	04524		
						00140	10030	04524		
						00141	10030	04524		

START TIME IN SECONDS

SPURT OUTPUT NO. 210  
JUN 1 1965

CAROS	L1	I0	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
	00142			CL	A*	00140	11000	00000		
	00143			OIV	100000	00141	23000	23420		
	00144			STR	Q*W10MEHRS)	00142	14030	04526		
	00145			STR	A*Q	00143	15000	00000		
	00146			CL	A*	00144	11000	00000		
	00147			OIV	1000	00145	23000	00144		
	00150			STR	Q*W10MEMINS)	00146	14030	04527		
	00151			STR	A*W10MESECS)	00147	15030	04530		
	00152			ENT	Q*W10MEHRS)	00150	10030	04526		
	00153			MUL	36000	00151	22000	07020		
	00154			STR	Q*W10MESECTTG)	00152	14030	04532		
	00155			ENT	Q*W10MEMINS)	00153	10030	04527		
	00156			MUL	600	00154	22000	00074		
	00157			RPL	Y+Q*W(OMESEC TTG)	00155	34030	04532		
	00160			ENT	Q*W10MESECS)	00156	10030	04530		
	00161			RPL	Y+Q*W(OMESEC TTG)	00157	34030	04532		
	00162			CL	Q*	00160	10000	00000		
	00163			RSH	AQ*2	00161	03000	00002		
	00164			OIV	864000	00162	23030	07500		
	00165			STR	Q*WCOMPAREET)	00163	14030	04521		
	00166		LETSGO	RJP	U1INTERCOM)	00164	65020	63426		
	00167			U-TAG	EVERYN*SAVIT	00165	02005	02021		
	00170		REVITAL	ENT	A*W1HSPOUTPUT)AZERO	00166	11430	03370		
	00171			JP	SEARCHTAPE	00167	61000	00173		
	00172			RJP	PFORM	00170	65000	05773		
	00173			5	2	00171	00005	00002		
	00174		SEARCHTAPE	RJP	E	00172	65000	02202		
	00175			ENT	A*L1HOWMANY)*AZERO	00173	11410	02067	SIM MODE = ZERO	
	00176			JP	NWSRCHTP	00174	61000	00200		
	00177			ENT	A*W1SIMSWITCH)AZERO	00175	11430	02025		
	00200			JP	BASICLOOP	00176	61000	00236		
	00201		NWSRCHTP	STR	BO*CPW1SIMSWITCH)	00177	16070	02026		
	00202			ENT	A*DATA2	00200	11000	71000		
	00203			SUB	A*DATA	00201	21000	53000		
	00204			ENT	B3*A	00202	12370	00000		
	00205		KEEPON	RJP	READAPE	00203	65000	03074		
	00206			U-TAG	DATA2+40000*DATA2	00204	00641	71000		
	00207			RJP	L1INTERCOM)	00205	65010	53426		
	00210			RJP	WHADDO	00206	65000	00357		
	00211			ENT	A*W1OATA2)	00207	11030	71000		
	00212			SUB	A*W1TITLEKEY)*ANOT	00210	21530	34415	NEW LOGICAL FILE	
	00213			JP	NEWTITLE	00211	61000	00100		
	00214			ENT	A*W1OATA2)	00212	11030	71000	F	
	00215			SUB	A*WCCKEY)*AZERO	00213	21430	04533	IS COMMON STORAGE	
	00216			JP	KEEPON	00214	61000	00203		
	00217			ENT	A*WANSSTTM)*APOS	00215	11530	04502		
	00220			JP	AWAYWEGO	00216	61000	00222		
	00221			ENT	A*WTRUTETIME+B3)	00217	11033	53132		
	00222			SUB	A*WICOMPAREST)*APOS	00220	21530	04520		
	00223			JP	KEEPON	00221	61000	00203		
	00224		AWAYWEGO	RPT	800-ADV	00222	70100	00120		
	00225			CL	WIPLORA)	00223	16030	02502		
	00226			PUT	L1HOWMANY)*L1ADVANB1)	00224	10010	02067	HOMMANY	

CAROS	L1	L0	LABEL	TA	STATEMENT	PRINTOUT	SPURT	OUTPUT	NO.	210	JOO*1/22/65	LOC	F	JKB	Y	NOTES
			C0227		STR Q*L(CNTRPT)				00225	14010	01374					
			00230		CL A*				00226	14010	01376					
			00231		ENT Q*5000				00227	14000	00000					
			00232		L(HOWMANY)				00230	10000	00764					
			00233		OIV				00231	23010	02067					
			00234		SUB Q*1				00232	27000	00001					
			00235	LAUNCHED	STR Q*L(NOPTS1)				00233	14010	02215	LOOP CONTROL				
			00236		ENT A*				00234	11000	00001					
			00237	BASICLOOP	STR A*L(MSWITCH)				00235	15010	02221					
			00240		RSE CP*L(MSWITCH)				00236	11000	00001					
			00241		ENT B4*L(MSWITCH)				00237	55010	02221					
			00242		ENT B3*L(IRSWITCH+B4)				00240	12410	02221					
			00243		PUT W(UTAGSWITCH+B4)*W(VARYUTAG)				00241	12314	02222					
			00244		STR Q*L(BACKWOS)				00242	10034	02224					
			00245		STR Q*L(BACKWOSA)				00243	14030	00321					
			C0246		PUT L(AZINSW+B4)*L(FORAZIN)				00244	14010	03322					
			00247		PUT L(ELINSH+B4)*L(FORELIN)				00245	14010	03325					
			00250		PUT L(AZOUTSW+B4)*L(FORAZOUT)				00246	10014	02230					
			00251		PUT L(ELOUTSW+B4)*L(FORELOUT)				00247	14010	01232					
			C0252		PUT L(OOPOUTSW+B4)*L(FOROOPOUT)				00250	10014	02232					
			00253		PUT 7*U(TOPORNOT)				00251	14010	01253					
			00254		ENT A*M(SIMSWITCH)*ANEG				00252	14014	02234					
			00255		JP NOTINSIM				00253	14010	01266					
			00256		ENT A*M(BRANONEW)*ANOT				00254	10014	02236					
			00257		JP \$+2				00255	14010	01266					
			00260		JP CARRION				00256	10014	02236					
			00261		STR BO-CPW(BRANONEW1)				00257	14010	01307					
			00262		CL UTOPORNOT)				00258	14020	00306					
			00263		JP NOTINSIM				00261	14020	00306					
			00264	CARRION	RPL Y-1*L(TITLECNT)*AZERO				00262	11730	02026					
			00265		JP REAOLOOP				00263	61000	00276	NEW TITLE				
			00266	RESETCNT	ENT Q*FRPERPAGE				00264	11530	02025					
			00267		STR Q*L(TITLECNT)				00265	61000	00267					
			00270	NOTOPPAGE	JP RJP PFO				00266	61000	00272					
			00271		O MYHEAO				00267	16070	02025					
			00272		1280 1				00270	16020	00306					
			00273		RJP E				00271	61000	00276					
			00274		JP \$+3*KEY3				00272	37410	02027					
			00275		ENT A*M(HSPOUTPUT)*AZERO				00273	61000	00320					
			00276		JP \$+4				00274	10000	00007					
			00277		RJP PSCRIB				00275	14010	02027					
			00300	TOPORNOT	7 3				00276	65000	00302					
			00301		RJP E				00277	65000	00304	NO HSP OUTPUT				
			00302		ENT A*M(BCDOUPUT1*AZERO				00278	65000	00305	OSCRIB				
			00303		JP				00279	65000	00306	00007				

\*\*\*\*\* PRINTOUT \*\*\*\*\* SPURT OUTPUT NO. 210  
JDO\*1/22/65

CAROS	L1 L0 LABEL	TA STATEMENT	LOC	F JK8 Y	NOTES
	00304	ENT A*L{DOUBLESPI	00312	11010 03744	
	00305	Q*U(TOPORNOT)	00313	10020 00206	
	00306	A00 Q*0*QZERO	00314	26400 00000	
	00307	ENT A*L(TOPOFPAGE)	00315	11010 03743	
	00310	STR A*UPBUFI	00316	15020 0774	
	00311	RJP TAPEOPEN	00317	65000 03473	C PATCH
	00312	REAOLOOP	00320	65000 03074	
	00313	VARYUTAG	00321	72640 53000	
	00314	BACKWOS	00322	11030 00000	
	00315	ENT A*W(01	00323	11030 00000	
	00316	SUB A*W(TITLEKEY1*ANOT	00324	21530 04415	
	00317	BACKWOSA	00325	61000 00100	
	00320	ENT A*W(01	00326	11030 00000	
	00321	SUB A*W(CSKKEY1*AZERO	00327	21430 04533	NOT OQRS
	00322	REAOLOOP	00330	61000 0320	
	00323	ENT A*W(COMPAREFTI	00331	11030 00521	
	00324	SUB A*W(TRUE TIME+B31*ANEG	00332	21733 53132	
	00325	NOTIO	00333	61000 00452	
	00326	ENT A*W(LANSEN NOTM1*AP0S	00334	11530 04517	
	00327	JP NOTIO	00335	61000 00452	
		PUT 12000*U(QNSERT1	00335	10000 12000	
	00330	QWL0OP	00336	14020 0034	
	00331	RJP L(INTERCOM1	00337	65010 53426	
	00332	RJP WHATOO	00340	65000 00357	
	00333	QNSERT	00341	12000 00000	
		PUT W(QNSERT1*W(QNSERT1	00342	10030 04516	
	00334	RJP U(INTERCOM)	00343	14030 0034	
	00335	U-TAG TELNONE*0	00344	14020 53426	FINISHED THIS JJB
	00336	RJP WHATOO	00345	04534 00000	
	00337	SKIPOVER	00346	65000 00357	
	00340	ENT A*W(00000*DATA	00347	65000 03014	
	00341	U-TAG L(INTERCOM1	00350	72640 53000	
	00342	RJP WHATOO	00351	65010 53426	
	00343	ENT A*W(0ATA)	00352	65000 00357	
	00344	SUB A*W(TITLEKEY1*AZERO	00353	11030 63000	
	00345	JP SKIPOVER	00354	21430 04415	
	00346	ENT A*W(NEWTITLE	00355	61000 00347	
	00347	RJP WHATOO	00356	61000 00100	
	00350	TERM TAPE* INPUT	00357	61000 00000	
	00351	TERM HSP* OUTPUT	00360	66640 00000	
	00352	PUT 12000*U(GOTHRI1	00361	67140 00000	
			00362	10000 12000	
	00353	FNL0OP	00363	14020 03265	
	00354	RJP L(INTERCOM1	00364	65010 53426	
	00355	GOTHR	00365	65000 00357	
	00356	PUT W(NOGOTHRI1*W(GOTHRI1	00366	12000 00000	
			00367	10030 0451	
	00357	ENT A*W(HSPOUTPUT1*AZERO	00370	14030 00346	
	00360	JP SK A*W	00371	11430 03370	
	00361	RJP SKIPP	00372	61000 00376	
	00362	PFORM	00373	55000 05773	ASK ROY HY
	00363	2	00374	00005 00002	
	00364	RJP E W(NOWWHAT1	00375	65000 02202	
		CL	00376	16030 00447	

SPURT OUTPUT NO. 210  
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CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*	00365	RJP U(INTERCOM) U-TAG ENT A*(NOWHAT)•AZERO	00377	65020	53426		RETURN TO CONTROL = 0
*	00366	JP TWOORNE	00400	211610	00443		SKIP FORWARD NON ZERO
*	C0367	RJP FINALIZER	00402	61000	00405		
*	00370	JP L(PORUN)	00403	65000	00410		
*	00371	SUB A*1•AZERO	00404	61010	00002		EXIT TO SYSTEM
*	00372		00405	21100	00001		
*	C0373	TWOORNE	00406	61000	00101		
*	00374	JP ASKTIMES	00407	61000	00347		
*	00375	JP SKIPOVER	00410	61000	00000		
*	00376	FINALIZER	00411	10030	00426		
*	00377	ENTRY PUT W(JUMPBACK)•W(351)	00412	14030	00035		
*	00400	EX-FCT TAPE•3010000004	00413	13670	07477		REW INPUT TAPE HIT INT
*	00401	JP \$	00414	61000	00414		
*	C0402	FMJMPBACK	00415	17570	03323		
*	00403	STR TAPE•W(STATI)	00416	11630	03371		WAS THERE BCO OUTPUT
*	00404	ENT A•W(BCOOUTPUT)•APOS	00417	61010	00410		NO
*	00405	EXIT PUT FMEOFS3•L(351)	00420	10000	00424		WEEOF ON O/P TAPE W/INT
*	00406	EX-FCT TAPE•1230000010	00421	14010	00035		
*	00407	JP \$	00422	13570	07501		
*	00410	FMEOFS3	00423	51000	00423		
*	C0411	STR TAPE•W(STATI)	00424	17670	03323		
*	00412	EXIT RILJP	00425	61010	00410		
*	00413	JUMPBACK	00426	60100	00415		
*	00414	NOQUEST F0 1•A	00427	06050	50505		
*	C0415	CHOICEQJES F0 -0 \$+1	00430	77777	00431		
*	00416	2312353105	00431	31240	53036		
*	C0417	5213162112	00432	30311	22205		
*	00420	5205516140	00433				
*	00421	F0 3• NEW TIMES (2)	00434	23123	53105		NEXT
*	00422	-0	00435	52131	52112		
*	00423	NOWANS F0 1•0	00436	52055	16140		
*	00424	11 NOWWHAT	00437	05052	31234		
*	C0425	0	00440	05311	52212		
*	00426	2	00441	30055	15210		
*	00427	NOWWHAT 0	00442	77777	77777		
*	00428	WHERETOGO RILJP FILEONE	00443	11050	50505		
*	00429	0 FNLOOP JP FNLOOP	00444	00011	00447		
*	C0430	NOGOTH RJ MOVE 200•PL2RA•PLORA	00445	00000	00000		
*	00431	NOTIO	00446	00000	00002		
*	00432		00447	00000	00000		
*	00433		00450	61000	00023		
*	00434		00451	61000	00364		
*	00435		00452	12700	00023		
*	00436		00453	10037	02526		
*	00437		00454	14037	02592		
*	00438		00455	72700	00453		
*	00439		00456	12700	00023		
*	00440		00457	10037	02552		
*	00441		00460	14037	02526		
*	00442		00461	72700	00457		
*	00443		00462	12700	00023		
*	00444		00463	10037	02576		

CAROS		L1 IO LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
				00464	14037	02552				
			RJP PBLANK	00465	72700	00463				
C0435			1 1280	00466	65000	05621				
00456			RJP E	00467	00001	00200				
C0437			RJP PFO	00470	65000	02202				
00440			0 T1	00471	65000	05557	OBCC			
C0441			1280 1	00472	00000	02274				
00442			RJP E	00473	00200	00001				
C0443			JP \$+3•KEY3	00474	65000	02202				
00444			ENT A•W(IHSPOUTPUT1•AZERO	00475	61300	00500				
C0445			JP \$+4	00476	11430	03370				
00446			RJP PSCRIB	00477	61000	00503	NO HSP OUTPUT			
C0447			0 3	00500	65000	05057	OSCRIB			
00450			RJP E	00501	00000	00003				
00451			ENT A•W(BCOOUTPUT1•AZERO	00502	65000	02202				
00452			JP \$+4	00503	11430	03371				
C0453			ENT A•L(00UBLESP1	00504	61000	00510	NO BCO OUTPUT			
00454			STR A•UPBUF1	00505	11010	03744				
C0455			RJP TAPEOPUT	00506	15020	07274				
00456			RJP PBLANK	00507	65000	03473	OBLANK			
C0457			1 1280	00510	65000	05621				
00460			RJP E	00511	00001	00200				
C0461			ENT Q•W(STRUETIME+B31•QPOS	00512	65000	02202				
00462			JP TTISNEG	00513	10233	63132	SYSTEM TIME IS NEGATIVE			
00463			PUT FILLBLNK•L(FILLCHAR1	00514	61000	00520				
00464			JP NOWOOTIME	00515	10000	32004				
00465			CP Q*	00516	14010	00575				
00466			STR Q•W(STRUETIME+B31	00517	61000	00524				
00467			PUT FILLNEG•L(FILLCHAR1	00520	14000	00000				
00468				00521	14033	53132				
00469				00522	10000	02005				
00470			ENT Q•W(STRUETIME+B31	00523	14010	00575				
00471		NOWOOTIME	MUL 240	00524	10033	53132	EXTRACT HOURS			
00472			STR Q•W(TEMP1	00525	22000	00030				
00473			LSH AQ•2	00526	00523	02204				
00474			STR A•W(HOURS1	00527	07000	00002	HOURS B30			
C0475			ENT A•W(TEMP1	00530	15030	02211				
00476			SEL CL•6000000000	00531	11030	02204				
00477			STR A•Q	00532	52030	07502				
00500			MUL 600	00533	15000	00000				
C0501			STR Q•W(TEMP1	00534	22000	00074				
00502			LSH AQ•2	00535	14030	02204				
00503			STR A•W(MINS1	00536	07000	00002	MINS B30			
00504			ENT A•W(TEMP1	00537	15030	02212				
00505			SEL CL•6000000000	00540	11030	02204				
00506			STR A•Q	00541	52030	07502				
C0507			MUL 600	00542	15000	00000				
00510			LSH AQ•2•QPOS	00543	22000	00074				
C0511			A•W(1	00544	07200	00002				
00512			STR A•W(SECS1	00545	20000	00001				
00513			SUB A•600•AZERO	00546	15030	02213				
00514			JP CHECKMIN	00547	21400	00074	AV010 P/O LIKE 13 59 60			
C0515				00550	61000	00553				

SPURT OUTPUT NO. 210  
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CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
	*	00516		STR	A*W1SECS)	00551	15030	02213		
	*	00517	CHECKMIN	RPL	Y+1*W1MINS)	00552	36030	02212		
	*	00520		ENT	A*W1MINS)	00553	11030	02212		
	*	00521		SUB	A*600*ALZERO	00554	21400	00074		
	*	00522		JP	TIMEOK	00555	61000	00560		
	*	00523		STR	A*W1MINS)	00556	15030	02212		
	*	00524		RPL	Y+1*W1HOURS)	00557	36030	02211		
	*	00525	TIMEOK	RJP	PINT	00558	65000	05362		
	*	00526		O	HOURS	00561	00000	02211		
	*	00527		2	1	00562	00002	00001		
	*	00530		RJP	E	00563	65000	02202		
	*	00531		RJP	PINT	00564	65000	05362	0INT	
	*	00532		O	MINS	00565	00000	02212		
	*	00533		2	4	00566	00002	00004		
	*	00534		RJP	E	00567	65000	02202		
	*	00535		RJP	PINT	00570	65000	05362	0INT	
	*	00536		O	SECS	00571	00000	02213		
	*	00537		2	7	00572	00002	00007		
	*	00540		RJP	E	00573	65000	02202		
	*	00541		RJP	PF0	00574	65000	05557		
	*	00542	FILLCHAR	O		00575	00000	00000		
	*	00543		1	1	00576	00001	00001		
	*	00544		RJP	E	00577	65000	02202		
	*	00545		ENT	Q*W(IRA+B3)	00600	10033	63002	RA	
	*	00546		STR	Q*W(PL6RA)	00601	14030	02576		
	*	00547		ENT	Q*W(PLORA)	00602	10030	02502	JSE DATA THREE FRAMES 0L0	
	*	00550		RJP	RB27	00603	65000	01642		
	*	00551		RJP	PFIX	00604	65000	05476	0FIX	
	*	00552		O	FX	00605	00000	32217		
	*	00553		190	100	00606	00023	00012		
	*	00554		3	4	00607	00003	00004		
	*	00555		RJP	E	00610	65000	02202		
	*	00556	NOWOEC	ENT	Q*W(OEC+B3)	00611	10033	63003	0EC	
	*	00557		STR	Q*W(PL0OEC)	00612	14030	02577		
	*	00560		ENT	Q*W(PL00EC)	00613	10030	02503		
	*	00561		RJP	RB27	00614	65000	01642		
	*	00562		RJP	PFIX	00615	65000	05476	0FIX	
	*	00563		O	FX	00616	00000	02217		
	*	00564		190	190	00617	00023	00023		
	*	00565		3	4	00620	00003	00004		
	*	00566		RJP	E	00621	65000	02202		
	*	00567		ENT	A*W(SYSTAT2)*ANEG	00622	11730	63314		
	*	00570		JP	ISERA011	00623	61000	00637		
	*	00571	ISAU	PUT	W(RAOIUS+B3)*W(PL6RAOIUS)	00624	10033	63006		
	*	00572		ENT	A*W(PLORA0IUS)*AP05	00625	11630	02504		
	*	00573		CP	A*	00627	15040	00000		
	*	00574		STR	A*W(PLORA0IUS)	00630	15030	02504		
	*	00575		RJP	PFIX	00631	65000	05476		
	*	00576		O	PLORA0IUS	00632	00000	02504		
	*	00577		240	280	00633	00030	00034		
	*	00600		2	80	00634	00002	00010		
	*	00601		RJP	E	00635	65000	02202		

SPURT OUTPUT NO. 210  
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CAROS		L1 TO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
.	00602	ISERA011	JP ARNO PUT W(RAOIUS+B31)*W(PL6RA0IUS)	00636	61000 006446	
.	00603		RJP PFIX	00637	10033 53006	
.	00604		0 PLORA0IUS	00640	14030 02600	
.	00605		220 2B0	00641	65000 05476	
.	00606		3 80	00642	00000 02504	
.	00607		E	00643	00025 0034	
.	00608		RJP PUT W(RAOIUS00T+B31)*W(PL6RA0S0T)	00644	00003 0010	
.	00609			00645	55000 02202	
.	00610			00646	10033 53011	
.	00611	ARNO		00647	14030 02601	
.	00612		RJP PFIX	00650	65000 05476	
.	00613		0 PLORA0S0T	00651	00000 02505	
.	00614		240 410	00652	00030 00051	
.	00615		5	00653	00002 00005	
.	00616		E	00654	65000 02202	
.	00617		ENT Q*W(RAO00T+B31)	00655	10033 53007	RAOINS PER SEC B37
.	00618		STR Q*W(PL6RA00T)	00656	14030 02602	
.	00619		ENT Q*W(PLORA00T)	00657	10030 02506	
.	00620		MUL W(TENG6B16)	00660	220030 01765	10000B16
.	00621		STR A=W(LTEMP1)	00661	15030 02204	
.	00622		RJP PF1X	00662	65000 05476	
.	00623		O TEMP	00663	00000 02204	
.	00624		220 500	00664	00026 00062	
.	00625		2 7	00665	00002 00007	
.	00626			00666	65000 02202	
.	00627			00667	10033 53053	
.	00628			00668	14030 02603	
.	00629			00669	00030 02507	
.	00630			00670	65000 01642	
.	00631	FORAZIM	RJP PF1X	00671	00673 65000 05476	OF1X
.	00632		0 FX	00674	00000 02217	
.	00633		190 610	00675	00023 00075	
.	00634		3 4	00676	00003 00004	
.	00635		RJP E	00677	65000 02202	
.	00636		ENT Q*W(ELEV+B31)	00701	10033 53054	
.	00637		STR Q*W(PL6ELEV1)	00702	10030 02510	
.	00638		ENT Q*W(PLOELEV1)	00703	65000 01642	
.	00639		RJP PF1X	00704	65000 05476	
.	00640		O FX	00705	00000 02217	
.	00641		190 700	00706	00023 00106	
.	00642	FORELEV		00707	00003 00004	
.	00643			00710	65000 02202	
.	00644			00711	10033 53060	
.	00645			00712	14030 02605	
.	00646			00713	10030 02511	
.	00647			00714	65000 01642	
.	00648			00715	55000 05476	OF1X
.	00649			00716	00000 02217	
.	00650			00717	00023 00117	
.	00651			00720	00003 00004	
.	00652			00721	55000 02202	
.	00653			00722	11033 53063	
.	00654					
.	00655					
.	00656					
.	00657					
.	00660					
.	00661					
.	00662					
.	00663					
.	00664					

\*\*\*\*\* PRINTOUT \*\*\*\*\* SPURT OUTPUT NO. 210  
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CAROS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	00665			STR A*W(PLOTURNG)	00723	15030	02606		
	00666			ENT A*W(PLOTURNG)	00724	11030	02512		
	00667			STR A*W(ROPR)*APOS	00725	15630	04546	FOR R0C0N9 SR	
	00670			CP A*	00726	15040	00000		
	00671			STR A*W(PLOTURNG)	00727	15030	02512		
	00672			ENT A*W(SYSTAT2)*ANEG	00730	11730	63314		
	00673			JP POSRNG	00731	61000	00740		
	00674			RJP PFIX	00732	65000	05476	0F1X	
	00675			O PLOTURNG	00733	00000	02512		
	00676			00676 240 880	00734	00030	00130		
	00677			00677 2 BO	00735	00002	00010		
	00700			RJP E	00736	65000	02202		
	00701			00701 POSRNG	00737	61000	00745		
	00702			RJP PFIX	00740	65000	05476	0F1X	
	00703			O PLOTURNG	00741	00000	02512		
	00704			00704 220 0	00742	00024	00000		
	00705			00705 3 7	00743	00003	00007		
	00706			RJP E	00744	65000	02202		
	00707			00707 NOWRAHH	00745	10030	02502		
	00710			RJP RAINHH	00746	65000	04301	IHH MM SS.XX FORMAT	
	00711			ENT A*1000	00747	11000	0144		
	00712			RJP PORA	00750	55000	01647		
	00713			ENT Q*W(PLOOEC)	00751	10030	02503		
	00714			RJP OECINOMS	00752	65000	04240		
	00715			ENT A*1120	00753	11000	00160		
	00716			RJP PODEC	00754	65000	01716		
	00717			JP \$+3*KEY3	00755	61300	0076		
	00720			ENT A*W(HSPOUTPUT)*AZERO	00756	11430	03370		
	00721			JP \$+4	00757	61000	00763	NO HSP OUTPUT	
	00722			RJP PSCRIB	00760	65000	06057	OSCRIB	
	00723			O 1	00761	00000	00001		
	00724			RJP E	00762	65000	02202		
	00725			ENT A*W(BCDOUTPUT)*AZERO	00763	11430	03371		
	00726			JP \$+4	00764	61000	00770	NO BCO OUTPUT	
	00727			ENT A*L(SINGLESP)	00765	11010	03745		
	00730			STR A*U(PBUF)	00766	15020	017274		
	00731			RJP TAPEPUT	00767	65000	03473		
	00732			RJP PBLANK	00770	55000	05621	OBLANK	
	00733			1 1280	00771	00001	00200		
	00734			RJP E	00772	65000	02202		
	00735			RJP PFO	00773	65000	05557	OBCC	
	00736			0 T2	00774	00000	02326		
	00737			1280 1	00775	00200	00001		
	00740			RJP E	00776	65000	02202		
	00741			JP \$+3*KEY3	00777	61300	01002		
	00742			ENT A*W(HSPOUTPUT)*AZERO	01000	61000	01005	NO HSP OUTPUT	
	00743			JP \$+4	01002	65000	05057	OSCRIB	
	00744			RJP PSCRIB	01003	00000	00002		
	00745			O 2	01004	65000	02202		
	00746			RJP E	01005	11430	03371		
	00747			ENT A*W(BCDOUTPUT)*AZERO	01006	61000	01012	NO BCD OUTPT	
	00750			JP \$+4	01007	11010	03744		
	00751			ENT A*L(DOUBLESP)					

SPURT OUTPUT NO. 210  
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CARD	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	00752	STR A•UIPBUF1	01010	15020	07274		
	00753	RJP TAPEOUTPUT	01011	65000	03473		
	00754	RJP PBLANK	01012	65000	05621	OBLANK	
	00755	1 1280	01013	00001	00200		
	00756	RJP E	01014	65000	02202		
	00757	ENT Q•WISRA+B31	01015	10033	53004		
	00760	STR Q•WIPL6SRA1	01016	14030	02607		
	00761	ENT Q•WIPLOSSRA1	01017	10030	02513		
	00762	RJP RB27	01020	65000	01642		
	00763	RJP PFIX	01021	65000	05476	OFIX	
	00764	0 FX	01022	00000	02217		
	00765	190 100	01023	00023	00012		
	00766	3 4	01024	00003	00004		
	00767	RJP E	01025	65000	02202		
	00770	ENT Q•WISOEC+B31	01026	10033	53005		
	00771	STR Q•WIPL6SOEC1	01027	14030	02610		
	00772	ENT Q•WIPLOSSOEC1	01030	10030	02514		
	00773	RJP RB27	01031	65000	01642		
	00774	RJP PFIX	01032	65000	05476	OFIX	
	00775	0 FX	01033	00000	02217		
	00776	190 190	01034	00023	00023		
	00777	3 4	01035	00003	00004		
C1000		RJP E	01036	65000	02202		
C1001		PUT W(CRANGE+B31)*W(PLRNGOOT)	01037	10033	53057		
	C1002	RJP PINT	01040	14030	02611		
	C1003	0 PLORANGE	01041	65000	05362		
	C1004	80 280	01042	00000	02515		
	C1005	RJP E	01043	00010	00034		
	C1006	PUT W(IRANGE00T+B31)*W(PLRNGOOT)	01044	65000	02202		
	C1007	RJP PFIX	01045	10033	53062		
	01010	0 PLORNGOOT	01046	14030	02612		
	C1011	240 370	01047	65000	05476		
	C1012	2 5	01050	00000	02516		
	C1013	RJP E	01051	00030	00045		
	01014	ENT Q•WIEC00T+B31	01052	00002	00005		
	01015	STR Q•WIPL60EC00T1	01053	65000	02202		
	01016	ENT Q•WIPLO0ECD00T1	01054	10033	53010	RAO B37	
	01017	MUL W(TEMPB161	01055	14030	02513		
	01020	STR A•WITEMP1	01056	10036	02517		
	C1021	RJP PFIX	01057	22030	01765	100000B16	
	01022	0 TEMP	01060	15030	02204		
	01023	220 460	01061	65000	02202		
	01024	2 7	01062	00000	02204		
	01025	RJP E	01063	00025	00026		
	01026	ENT Q•WISAZIM+B31	01064	00002	00007		
	01027	STR Q•WIPL6SAZIM1	01065	65000	02204		
	01030	ENT Q•WIPLOSSAZIM1	01066	10033	53055		
	01031	RJP RB27	01067	14030	02614		
	01032	RJP PFIX	01068	10030	02520		
	C1033	0 FX	01069	65000	01642		
	C1034	190 0	01070	00000	02217		
			01071	65000	05476	OFIX	
			01072	65000	00000	02217	
			01073	00000	02217		
			01074	00000	00000		

\*\*\*\*\* PRINTOUT \*\*\*\*\*

SPIRT OUTPUT NO. 210  
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CAROS	L1 L0 LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	C1035	3 4	01075	00003 00004	
*	01036	RJP E	01076	65000 02202	
*	01037	Q*W(SELEV+B3)	01077	10033 63056	
*	01040	STR Q*W(PL6SELEV)	01100	14030 02615	
*	C1041	ENT Q*W(PLOSELEV)	01101	10030 02521	
*	01042	RJP RB27	01102	65000 01642	
*	01043	RJP PF1X	01103	65000 05476	OFIX
*	01044	O FX	01104	00000 02217	
*	C1045	190 O	01105	00003 00000	
*	01046	3 4	01106	00003 00004	
*	01047	RJP E	01107	65000 02202	
*	01050	Q*W(ICELEV+B3)	01111	10033 63061	
*	C1051	STR Q*W(PL6CELEV)	01112	14030 02616	
*	01052	ENT Q*W(PLOCLEV)	01113	65000 01642	
*	01053	RJP RB27	01114	65000 05476	OFIX
*	01054	RJP PF1X	01115	00000 02217	
*	01055	O FX	01116	00023 00000	
*	01056	190 O	01117	00003 00004	
*	C1057	3 4	01118	65000 02202	
*	01060	RJP E	01120	10033 63012	
*	C1061	ENT Q*W(SI0ERTIME+B3)	01122	14030 02617	
*	01062	STR Q*W(PL6S0RTIME)	01123	10030 02523	
*	01063	ENT Q*W(PLOSSORTIME)	01124	14030 04547	
*	01064	STR Q*W(ROPS)	01125	22030 02065	
*	C1065	W(RA00EC)	01126	15030 02204	
*	01066	STR A*W(TEMP)	01127	65000 05476	OFIX
*	01067	RJP PF1X	01130	00000 02204	
*	01070	O TEMP	01131	00023 00000	
*	C1071	190 O	01132	00003 00004	
*	C1072	3 4	01133	65000 02202	
*	01073	RJP E	01134	10033 6137	
*	01074	JP \$+3*KEY3	01135	14300 03370	
*	C1075	ENT A*W(HSPOUTPUT)*AZERO	01136	61000 01442	NO HSP OUTPUT
*	01076	JP \$+4	01137	65000 06057	SCRIB
*	01077	RJP PSCR1B	01140	00000 00001	
*	01100	O 1	01141	65000 02202	
*	C1101	ENT A*W(BCOOUTPUT)*AZERO	01142	14300 03371	
*	01102	JP \$+4	01143	61000 01447	NO BCO OUTPUT
*	01103	ENT A*L(SINGLES)	01144	11010 03745	
*	01104	STR A*U(PBUF)	01145	15020 07274	
*	01105	RJP TAPEOPUT	01146	65000 03473	
*	01106	ENT A*W(SIMSWITCH)*ANOT	01147	11530 02026	
*	01107	JP MORESTUFF	01150	61000 01154	
*	01110	RJP LI(INTERCOM)	01151	65010 53426	
*	01111	RJP WHATOO	01152	65000 00357	
*	01112	JP BASICLOOP	01153	61000 00236	
*	01113	RJP PBLANK	01154	65000 05621	
*	01114	MORESTUFF	01155	00001 00200	
*	C1115	I 1280	01156	65000 02202	
*	01116	RJP EOF	01157	65000 05557	
*	01117	O LARELA	01160	00000 04341	
*	01120	O 1	01161	00156 00001	
*	C1121				

CAROS		L1 ID	LABEL	TA STATEMENT	PRINTOUT	SPURT	OUTPUT NO. 210	J00*1/22/65	LOC	F	JKB	Y	NOTES
		C1122		RJP E					01162	65000	02202		
		01123		JP \$+3*KEY3					01163	61300	01166		
		C1124		ENT A*W(HSPOUTPUT)*AZERO					01164	11430	03370		
		01125		JP \$+4					01165	61000	01171	NO HSP	OUTPUT
		01126		RJP PSCRIB					01166	65000	06057		
		01127		O					01167	00000	00005		
		C1130		RJP E					01170	65000	02202		
		01131		ENT A*W(BCCOOUTPUT)*AZERO					01171	11430	03371		
		01132		JP \$+4					01172	61000	01176	NO BCO	OUTPUT
		01133		ENT A*L(00UUBLESP)					01173	11010	03744		
		C1134		STR A*U(PBUFI					01174	15020	07274		
		01135		TAPEOUTPUT					01175	65000	03473		
		C1136		RJP PFO					01176	65000	05557		
		01137		O LABELB					01177	00000	04367		
		C1140		1100 1					01200	00156	00001		
		01141		RJP E					01201	65000	02202		
		01142		JP \$+3*KEY3					01202	61300	01205		
		01143		ENT A*W(HSPOUTPUT)*AZERO					01203	11430	03370		
		C1144		JP \$+4					01204	61000	01210	NO HSP	OUTPUT
		01145		RJP PSCRIB					01205	65000	05057		
		O							01206	00000	00001		
		01146		RJP E					01207	65000	02202		
		01147		ENT A*W(BCCOOUTPUT)*AZERO					01210	11430	03371		
		C1150		JP \$+4					01211	61000	01215		
		01151		ENT A*L(SINGLEESP)					01212	11010	03445		
		C1152		STR A*U(PBUFI					01213	15020	07274		
		01153		TAPEOUTPUT					01214	65000	03473		
		C1154		RJP PBLANK					01215	65000	05621		
		01155		1280					01216	00001	00200		
		C1156		RJP E					01217	65000	02202		
		01157		CL W(TIMEI)					01220	16030	02220		
		01160		CL B1*					01221	12100	00000		
		01161		CL B2*					01222	12200	00000		
		01162		RJP PFIX					01223	65000	05476	0 FIX	
		C1163		LOOPX					01224	00000	02220		
		01164		O TIME					01225	00034	00001		
		01165		280 1					01226	00001	00003		
		C1166		1 3					01227	55000	02202		
		01167		RJP E					01230	10030	02220		
		C1170		PUT W(TIMEI)*W(ROPG)					01231	14030	04550		
									01232	11031	75000		
									01233	65000	01632		
									01234	15030	04544		
									01235	15000	00000		
									01236	22000	00550		
									01237	14030	02204		
									01240	65000	05476		
									01241	00000	02204		
									01242	00023	00007		
									01243	00003	00004		
									01244	65000	02202		
									01245	11730	01641		
									01246	61000	01253		

..... PRINTOUT ..... SPURT OUTPUT NO. 210  
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CARDS	LI	IO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	01206		RJP PFO	01247	65000 05557	
	C1207		0 ASTARRX	01250	00000 04541	
	01210		1 7	01251	00001 00007	
	01211	FORELIN	RJP E	01252	65000 02202	
	01212		ENT A*WIELEVIN+B11	01253	11031 76000	
	C1213		SEL CL*7776000000	01254	52030 07503	
	01214		STR A*WIRROPE1	01255	15030 34545	
	01215		STR A*Q	01256	15000 00000	
	01216		MUL 3600	01257	22000 00550	
	C1217		STR Q*WHITEMP1	01260	14030 02204	
	01220		RJP PFIX	01261	65000 05476	OFIX
	01221		0 TEMP	01262	00000 02204	
	01222		190 160	01263	00023 00020	
	C1223		3 4	01264	00003 00004	
	01224		RJP E	01265	65000 02202	
	01225	FORAZOUT	ENT A*WIAZIMOUT+B11	01266	11031 54000	
	C1226		RJP CHKOVLAP	01267	65000 01632	
	C1227		STR A*WIFORROPA1	01270	15030 01766	
	01230		STR A*Q	01271	15000 00000	
	01231		MUL 3600	01272	22000 00550	
	01232		STR Q*WHITEMP1	01273	14030 02204	
	C1233		RJP PFIX	01274	65000 05476	
	C1234		0 TEMP	01275	00000 02204	
	01235		190 250	01276	00023 00031	
	01236		3 4	01277	00003 00004	
	C1237		RJP E	01300	65000 02202	
	01240		ENT A*WIKOVRALP1+ANEG	01301	11730 01641	
	01241		JP FORELOUT	01302	61000 01307	
	01242		RJP PFO	01303	65000 05557	
	C1243		0 ASTARRX	01304	00000 04541	
	01244		1 250	01305	00001 00031	
	C1245		RJP E	01306	65000 02202	
	01246	FORELOUT	ENT A*WIELEVOUE+B11	01307	11031 55000	
	C1247		SEL CL*7776000000	01310	52030 07503	
	01250		STR A*WIFORROPE1	01311	15030 31767	
	01251		STR A*Q	01312	15000 00000	
	01252		MUL 3600	01313	22000 00550	
	C1253		STR Q*WHITEMP1	01314	14030 02204	
	01254		RJP PFIX	01315	65000 05476	OFIX
	01255		0 TEMP	01316	00000 02204	
	01256		190 340	01317	00023 00042	
	C1257		3 4	01320	00003 00004	
	C1260		RJP E	01321	65000 02202	
	01261		ROCONV	01322	65000 04542	
	01262		ENT Q*WIRROUT1	01323	10030 05066	
	C1263		RATNPH	01324	65000 04301	CONVERT TO HH MM SS.XX FORMAT
	01264		ENT A*430	01325	11000 00533	OUTPUT HH START AT COL 43 34
	01265		RUP PORA	01326	65000 01647	
	01266		ENT Q*WIECOUT1	01327	10030 05065	
	C1267		RUP OECINOMS	01330	65000 04240	
	01270		ENT A*550	01331	11000 00067	
	01271		RUP POPEC	01332	65000 01716	
	01272		MOVE 2*FORROPA*ROPPA	01333	10030 01766	

CAROS		LI ID LABEL	TA STATEMENT	SPURT OUTPUT NO. 210 J00*1/22/65	LOC	F JKB Y	NOTES
		C1273	RJP ROCONV	01334 14030 04544			
*	*	01274	ENT Q*WIRAOUT)	01335 10030 01767			
*	*	01275	RJP RAINHH	01336 14030 04545			
*	*	01276	ENT A*680	01337 65000 04542			
*	*	01277	RJP PORA	01340 10030 05066			
*	*	01300	ENT Q*WIOECOUT)	01341 65000 34301			
*	*	01301	RJP DECINMS	01342 11000 00104			
*	*	01302	ENT A*800	01343 65000 01647			
*	*	01303	RJP P00EC	01344 10030 05065			
*	*	01304	FOROOPOUT	01345 65000 04240			
*	*	01305	ENT Q*WLOOPOUT+B1)	01346 11000 00120			
*	*	01306	SUB Q*7500000	01347 65000 01716			
*	*	01307	STR Q*WFOROOPP)	01348 10031 56000			
*	*	01310	RJP PINT	01349 27030 07504			
*	*	01311	O FOROOP	01350 14030 02214			
*	*	01312	90	01351 01355 65000 02202			
*	*	01315	RJP E	01352 01353 65000 05362			
*	*	01316	JP \$+3*KEY3	01354 00000 02214			
*	*	01317	ENT A*W(HSPOUTPUT)*AZERO	01355 00011 00135			
*	*	01320	RJP \$+4	01356 01356 65000 02202			
*	*	01321	ENT JP PSCRIB	01357 61300 01362			
*	*	01322	O 1	01358 01360 03370			
*	*	01323	RJP E	01359 01361 51000 01365			
*	*	01324	ENT A*LISINGLSP)	01360 01362 65000 06057			
*	*	01325	STR A*ULPBUFI	01361 01363 00000 00001			
*	*	01326	RJP TAPEOPUT	01364 01365 65000 02202			
*	*	01327	RJP LINTERCOM)	01366 01366 61000 01372			
*	*	01330	ENT WHATOO	01367 01367 11010 03745			
*	*	01331	ENT B1*B1+0	01368 01370 15020 07274			
*	*	01332	ENT Q*WOLETIME)	01369 01371 65000 03473			
*	*	01333	MUL O	01370 01372 65010 53426			
*	*	01334	RPL Y+Q*WTIME)	01371 01373 65000 00357			
*	*	01335	BSK B2*L(NOPTS)	01372 01374 12101 00000			
*	*	01336	JP LOOPX	01373 01375 10030 02216			
*	*	01337	JP BASICLOOP	01374 01376 22000 00000			
*	*	01340	ENTRY CL W(BRANONEW)	01375 01377 34030 02220			
*	*	01341	PUT 12000*U(OAMIC)	01376 01400 71210 02215			
*	*	C1342	RJP L(INTERCOM)	01377 01401 61000 01223			
*	*	01343	RJP WHATOO	01378 01402 61000 00236			
*	*	01344	NO-OP	01379 01403 61000 00000			
*	*	01345	PUT W(INSERTX)*W(OAMIC)	01380 01404 16030 02025			
*	*	01346	ENT Q*LLINBUFFER	01381 01405 10000 12000			
*	*	C1347	STR Q*LS\$+1)	01382 01406 14020 01411			
*	*	01350	ENT Q*L(0)	01383 01407 65010 52426			
*	*	C1351	STR Q*LMOVER+11	01384 01410 14010 01416			
*	*	01352	A00 Q*200	01385 01411 10010 00000			
*	*			01386 01412 12000 00000			
*	*			01387 01413 14030 01411			
*	*			01388 01414 10010 03101			
*	*			01389 01415 14010 01416			
*	*			01390 01416 10010 00000			
*	*			01391 01417 14010 01430			
*	*			01392 01420 26000 00024			

SPURT OUTPUT NO. 210  
JOO•1/22/65

CARD	L1	L10	LABEL	TA	STATEMENT	LOC	F	JK8	Y	NOTES
	01353			STR	Q•L•PICKPGM	01421	14010	01477		
•	01354			ENT	B7•0ELTA0	01422	12700	06000		
•	01355			STR	Q•L(\$+1	01423	14010	01424		
•	01356			ENT	A•W(01	01424	11030	00000		
•	01357			STR	A•W(SYSTAT21	01425	15030	53314		
•	01360			STR	A•W(SYSTAT2•B71	01426	15037	53314		
•	01361	MOVER		MOVE	24D•0DATA•HEAO	01427	12700	00027		
						01430	10037	63000		
						01431	14037	02070		
						01432	72700	01430		
	01362			RJP	PFO	01433	65000	05557	08CC	
•	01363			O	HEAO•2	01434	00000	02072		
•	01364			B00	1	01435	00120	00001		
•	01365			RJP	E	01436	65000	02202		
•	01366			ENT	Q•L(HEAO+190)	01437	10010	02113		
•	01367			CL	A*	01440	11000	00000		
•	01370			OIV	7	01441	23000	00007		
•	01371			LSH	A•1	01442	06000	00001		
•	01372			ENT	B1•A	01443	12170	00000		
•	01373			RJP	PFO	01444	65000	05557	08CC	
•	01374			I	OAYS	01445	00001	02161		
•	01375			100	B10	01446	00012	00121		
•	01376			RJP	E	01447	65000	02202		
•	01377			ENT	A•L(HEAO+180)	01450	11010	02112		
•	01400			LSH	A•1	01451	06000	00001	2M-1	
•	C1401			ENT	B1•A	01452	12170	00000		
•	01402			RJP	PFO	01453	65000	05557	08CC	
•	01403			1	MONTH	01454	00001	02127		
•	01404			100	900	01455	00012	00132		
•	C1405			RJP	E	01456	65000	02202		
•	01406			PUT	U•HEAO+1801•L(YEAR)	01457	10020	02112		
•	01407			PUT	U•HEAO+1901•L(DAYNO)	01460	14010	02177		
•						01461	10020	02113		
•						01462	14010	02200		
•	01410			RJP	PINT	01463	65000	05362	0INT	
•	01411			O	DAYNO	01464	00000	02200		
•	01412			2	1000	01465	00002	00144		
•	C1413			RJP	E	01466	65000	02202		
•	01414			RJP	PFO	01467	65000	05557	08CC	
•	01415			O	COMMA	01470	00000	02201		
•	01416			1	1030	01471	00001	00147		
•	C1417			RJP	E	01472	65000	02202		
•	01420			RJP	PINT	01473	65000	05362	0INT	
•	01421			O	YEAR	01474	00000	02177		
•	01422			4	1040	01475	00004	00150		
•	C1423			RJP	E	01476	65000	02202		
•	01424	PICKPGM		ENT	A•L(01	01477	11010	00000		
•	01425			SUB	A•1	01500	21000	0C001		
•	01426			STR	A•L(TEMP1	01501	15010	02204		
•	C1427			SUB	A•5•ANOT	01502	21500	00005		
•	01430			JP	TALKHENRY	01503	61000	01521		
•	01431			ENT	A•L(TEMP1	01504	11010	02204		
•	01432			SUB	A•4•ANOT	01505	21500	00004		

SPURT OUTPUT NO. 210  
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CARD	L1 TO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	C1433	JP TALKHENRY	01506	61000 01521	
	01434	ENT A*(TEMP1	01507	11010 02204	
	01435	LSH A* 1	01510	06000 00001	
	01436	A00 A*(TEMP)	01511	00010 02204	
	C1437	A00 A*PGMTABLE	01512	20000 01577	
	C1440	STR A*(WHICHCPGM1	01513	15010 01515	
	C1441	RJP PFO	01514	65000 05557	
	01442	WHICHCPGM	01515	00000 00000	
	C1443	150 1120	01516	00017 00160	
	01444	RJP E	01517	65000 02202	
	01445	JP ARNOHEADO	01520	61000 01525	NEW WAY TO SAVE HEADING
	01446	RJP PFO	01521	65000 05557	
	C1447	O HEAO+210	01522	00000 02115	
	C1450	150 1120	01523	00017 00160	
	01451	RJP E	01524	65000 02202	
	01452	ARNOHEADO	01525	10000 51000	DISABLED O/P TO APP
	01453	RJP PSKRIB	01526	14020 06123	
	01454	O 1	01527	65000 06057	
	01455	RJP E	01530	00000 00001	
	C1456	PUT U(PACKBUFF1*L(ARN0HENRY+1)	01531	65000 02202	WHERE HEADING IS PACKED
			01532	10020 07205	
	01457	PUT 12000*U(PSCRIBSW)	01533	14010 01537	
	C1460	MOVE 260*MYOUT*MYHEADO	01534	10000 12000	ENABLE O/P
			01535	14020 05123	
			01536	12700 00031	
			01537	10037 02406	
	C1461	ENT A*(HEAO+21*ANOT	01540	14037 02242	
	C1462	JP WISEGUY	01541	72700 01537	
	01463	CL 85*	01542	11530 02072	
	01464	MORELOOK	01543	61000 01564	
	C1465	ENT A*(HEAO+24851*AZERO	01544	12500 00000	
	01466	JP NOTZERO	01545	11435 02072	
	01467	STR BO*CPW(HEAO+24851)	01546	61000 01551	
	01470	JP GETOUT	01547	16075 02072	
	C1471	BSK R5*150	01550	61000 01554	
		JP MORELOOK	01551	71500 00017	
	01472	STR BO*CPW(HEAO+1801	01552	61000 01545	
	01473	JP ADJUSTBUFRKEY1	01553	16070 02112	
	01474	U(INTERCOMI	01554	61100 01561	
	C1475	ANTITLE*0	01555	65020 53426	SAY TITLE FOLLOWS
	01476	U-TAG U(INTERCOMI	01556	04115 00000	PRINT THE TITLE
	01477	PRINTTITLE*0	01557	65020 53426	
	01500	ADJUSTBUFR	01558	04424 00000	
	C1501	ENT A* 1	01561	11000 00001	
	C1502	RSE CP*(MSWITCH1	01562	55010 02221	
	01503	EXIT	01563	61010 01403	
		MOVE 160*MUTE*MYHEADO	01564	12700 00017	
			01565	10037 04426	
			01566	14037 02242	
			01567	72700 01565	
			01570	55020 53426	
			01571	04416 00000	
			01572	65020 53426	

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CAROS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	*	01507		U-TAG BEHEAQ0*0	01573	04460	00000		
	*	01510		JP ADJUSTBUF CL W(COMPAREST)	01574	01000	01561		
	*	01511	STRNOW	JP CHICKENTM	01575	16030	04520		
	*	01512		F0 3*BELT SYSTEM	01576	01000	00136		
	*	01513	PGMTABLE		01577	07122	13105		
	*	01514		F0 3*SATELLITE SYSTEM	01600	30363	03112		
	*	01515		F0 3*FIXED AZIM-ELEV	01601	22050	50505		
	*	01516		F0 3*SUN SYSTEM	01602	30063	11221		
	*	01517		F0 3*STAR SYSTEM	01603	21163	11205		
	*	01520		F0 3*PLANET SYSTEM	01604	30363	03122		
	*	01521		F0 3*MOON SYSTEM	01605	13163	51211		
	*	01522		F0 3*FIXED R.A.-DEC	01606	05063	71622		
	*	01523	STAYLATE	PUT W(MAXETIME)W(COMPARET)	01607	41122	11233		
	*	01524		JP LETSGO	01610	30322	30530		
	*	01525	CHKVLAP	ENTRY CL W(KOVRLAP)	01611	36103	11222		
	*	01526		LSH A*100*APOS	01612	05050	50505		
	*	01527		STR BO*CPW(KOVRLAP)	01613	30310	62705		
	*	01530		SEL CL*4000000000	01614	30363	03112		
	*	01531		RSH A*100	01615	22050	50505		
	*	01532		EXIT	01616	25210	62312		
	*	01533	KOVRLAP	JP LETSGO	01617	31053	03630		
	*	01535	RB27	ENTRY 0	01620	31122	20505		
	*	01536		MUL W(0360B201	01621	22242	42305		
	*	01537		LSH AQ*2	01622	30363	03112		
	*	01540		STR A*W(FX1)	01623	22050	50505		
	*	01541		EXIT	01624	31122	20505		
	*	01542	PORA	ENTRY	01625	05277	50675		
	*	01543		STR A*L(BASICCOLRA1)	01626	41111	21005		
	*	01544		STR A*L(HHCOL1)	01627	10030	04522		
	*	01545		STR A*L(S1GCOL1)	01630	14030	04521		
	*	01546		RSH A*3	01631	61000	00164		
	*	01547		STR A*L(MMCOL1)	01632	61000	00000		
	*	01550		A*3	01633	01640	61010	01632	
	*	01551		STR A*L(SSCOL1)	01634	01641	00000		
					01635	06600	00012		
					01636	16070	01641		
					01637	32030	07505	CLEAR OVERLAP BIT	
					01638	02000	00012		
					01639	01643	22030	02064	
					01640	01644	07000	00002	DEGREES B19
					01641	01645	15030	02217	
					01642	01646	61010	01642	
					01643	01647	61000	00000	OUTPUT RA IN HH M SS.XX FORMAT
					01644	01648	01650	15010	
					01645	01651	15010	01664	
					01646	01652	15010	01672	
					01647	01653	20000	00003	
					01648	01654	15010	01676	
					01649	01655	20000	00003	
					01650	01656	15010	01702	

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CAROS	L1 L0 LABEL	TA STATEMENT	PRINTOUT	SPURT OUTPUT NO. 210	LOC	F JKB Y	NOTES
	01552	A00 A*3		01657	20000 00003		
	01553	STR A*(SSXXXCOL)		01660	15010 01706		
	01554	A*LPTCOL1		01661	15010 01712		
	01555	RJP PINT		01662	65000 05362		
	01556	O RAHH		01663	00000 04335		
	01557 HHCOL	2 O		01664	00002 00000		
	01560	RJP E		01665	65000 02202		
	01561	ENT A*W(RASIGN)*ANEG		01666	11730 04334		
	01562 RAPLUS	JP RAPLUS		01667	61000 01674		
	01563	RJP PFO		01670	65000 05557		
	01564	O NEGSIGN		01671	00000 04277		
	01565 SIGNCOL	1 O		01672	00001 00000		
	01566	RJP E		01673	65000 02202		
	01567 RAPLUS	RJP PINT		01674	65000 05362		
	01570	O RAMM		01675	00000 04336		
	01571 HMCOL	2 O		01676	00002 00000		
	01572	RJP PINT		01677	65000 02202		
	01573	O RASSXX		01700	65000 05362		
	01574 SSSCOL	2 O		01701	00000 04337		
	01575	RJP E		01702	00002 00000		
	01576	RJP PFO		01703	65000 02202		
	01577	RJP PINT		01704	65000 05362		
	01600 SSXXXCOL	O RASSXX		01705	00000 04340		
	01601	2 O		01706	00002 00000		
	01602	RJP E		01707	65000 02202		
	01603	RJP PFO		01710	65000 05557		
	01604	O ECPPOINT		01711	00000 04300		
	01605 PTCOL	1 O		01712	00001 00000		
	01606	RJP E		01713	65000 02202		
	01607 BASICCOLRA	EXIT		01714	61010 01647		
	01610	O		01715	00000 00000		
	01611 P00EC	ENTRY		01716	61000 00000	OUTPUT OEC IN	00 44 SS.X F324
	01612	STR A*L(BASICCOL)		01717	15010 01764		
	01613	STR A*L0COL1		01720	15010 01733		
	C1614	A*L(SGNCOL)		01721	15010 01741		
	01615	A00 A*4		01722	20000 00004		
	01616	STR A*L0INCOL		01723	15010 01745		
	01617	A00 A*3		01724	20000 00003		
	01620	STR A*L0ECCOL		01725	15010 01751		
	01621	A00 A*3		01726	20000 00003		
	01622	STR A*L0SSXXXCOL		01727	15010 01755		
	01623	RJP E		01730	15010 01761		
	01624	ENT A*W(OCSIGN)*ANEG		01731	65000 05362		
	01625	OECPLUS		01732	00000 04273		
	01626 ODCOL	OECOEG		01733	00003 00000		
	01627	3 O		01734	65000 02202		
	01630	RJP E		01735	11730 04271		
	01631	JP OECPLUS		01736	61000 01743		
	01632	RJP PFO		01737	65000 05557		
	01633	O NEGSIGN		01740	00000 04277		
	01634 SGNCOL	1 O		01741	00001 00000		
	01635	RJP E		01742	65000 02202		

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CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	01636 OECPLUS	RJP PINT	01743	65000	05362		
*	01637	0 OECMIN	01744	00000	04274		
*	01640 OMINCOL	2 0	01745	00002	00000		
*	01641	RJP E	01746	65000	02202		
*	01642	RJP PINT	01747	65000	05362		
*	01643	0 OECSEC	01750	00000	04275		
*	01644 OSECCOL	2 0	01751	00002	00000		
*	01645	RJP E	01752	65000	02202		
*	01646	RJP PINT	01753	65000	05362		
*	01647	0 OECSEXX	01754	00000	04276		
*	01650 OSSXXCOL	1 0	01755	00001	00000		
*	01651	RJP E	01756	65000	02202		
*	01652	RJP PFO	01757	65000	05557		
*	01653	0 OECPOINT	01760	00000	04300		
*	01654 OPTCOL	1 0	01761	00001	00000		
*	01655	RJP E	01762	65000	02202		
*	01656 BASICCOL	EXIT	01763	61010	01716		
*	01657	0	01764	00000	00000		
*	01660 TENG16	2342000000	01765	23420	00000		
*	01661 FORROPA	0	01766	00000	00000		
*	01662 FORROPE	O	01767	00000	00000		
*	01663 TELLTOP	FO 1*A	01770	06050	50505		
*	01664	-0 \$+1	01771	77777	01772		
*	01665	FO 0*SET TOP OF PAGE AND CLEAR PRINTER	01772	30123	10531		
		CHANNEL.	01773	24250	52413		
			01774	05250	51412		
			01775	05062	31105		
			01776	10211	20627		
			01777	05252	71623		
			02000	31122	70510		
			02001	15062	32312		
			02002	21750	50505		
			02003	77777	77777		
			02004	05050	50505		
			02005	41050	50505		
			02006	06050	50505		
			02007	77777	02010		
			02010	13242	70512		
			02011	33122	73605		
			02012	23053	11505		
			02013	11063	13222		
			02014	05122	33112		
			02015	27052	30551		
			02016	24416	52424		
			02017	40050	50505		
			02020	77777	77777		
			02021	11050	50505		
			02022	00011	02067		
			02023	00000	00000		
			02024	00000	00764		
			02025	00000	00000		
			C1674	-0	1*0		
			01675 SAYIT	FO	HOMANY		
			01676	11			
			01677	0			
			C1700	0	5000		
			01701 BRANONEW	0			

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CAROS	L1	I0	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
	01702	SIMSWITCH	0			02026	00000	00000		
	C1703	TITLECNT	0			02027	00000	00000		
	01704	ASKHR	FO	1*A		02030	06050	50505		
	01705		-0	\$+1		02031	77777	02032		
	01706		FO	0*START GMT HH		02032	30310	52731		
	C1707		-0			02033	05142	23105		
	01710	TELLHR	FO	1*0		02034	15150	50505		
	C1711		11	STHR		02035	77777	77777		
	01712		0	0		02036	11050	50505		
	01713		0	480		02040	00000	00000		
	01714	ASKMIN	FO	1*A		02041	00000	00060		
	C1715		-0	\$+1		02042	06050	50505		
	01716		FO	0*MM		02043	77777	02044		
	01717	TELLMIN	FO	1*0		02044	22220	50505		
	01720		11	STMM		02045	11050	50505		
	C1721		0	0		02046	00011	02061		
	01722		0	590		02047	00000	00000		
	01723	ASKSEC	FO	1*A		02050	00000	00073		
	01724		-0	\$+1		02051	06050	50505		
	C1725		FO	0*SS		02052	77777	02053		
	01726	TELLSEC	FO	1*0		02053	30300	50505		
	C1727		11	STSS		02054	11050	50505		
	C1730		0	0		02055	00011	02062		
	C1731		0	590		02056	00000	00000		
	01732	STHR	0			02057	00000	00073		
	01733	STMM	0			02060	00000	00000		
	01734	STSS	0			02061	00000	00000		
	C1735	TTG	0			02062	00000	00000		
	01736	0360820	2640000000			02063	00000	00000		
	C1737	RA00EC	3451356036			02064	26400	00000	OEC	360.820
	01740	INSERTA	JP	WL00P		02065	34513	56036		57.29578H23
	01741	HOMMANY	0	2500		02066	610000	00044		
	01742	HEAD	RESERVE	300		02067	00000	00372		
	01743	HEADKEY	0			02070	00000	00000		
	C1744	MONTH	0			02126	00000	00000		
	C1745		0			02127	00000	00000		
	01746		FO	2* JANUARY		02130	00000	00000		
	01747		FO	2* FEBRUARY		02131	05050	51706		
	01750		FO	2* MARCH		02132	23320	52736		
	01751		FO	2* APRIL		02133	05051	51207		
	C1752		FO	2* MAY		02134	27320	52736		
	01753		FO	2* JUNE		02135	05050	50505		
	01754		FO	2* JULY		02136	22062	71015		
	01755		FO	2* AUGUST		02137	05050	50505		

SPURT OUTPUT NO. 210  
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CARD#	L1	I0	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
	*	01756		FD	2* SEPTEMBER	02150	32143	23031		
	*	01757		FD	2* OCTOBER	02151	05301	22531		
	*	C1760		FD	2* NOVEMBER	02152	12220	71227		
	*	01761		FD	2* DECEMBER	02153	05050	52410		
	*	01762	0 DAYS	FD	2* THURSDAY	02154	31240	71227		
	*	01763		FD	2*FRIDAY	02155	05052	32433		
	*	01764		FD	2* SATURDAY	02156	12220	71227		
	*	01765		FD	2* SUNDAY	02157	05051	11210		
	*	01766		FD	2*MONDAY	02160	12220	71227		
	*	01767		FD	2*TUESDAY	02161	31153	22730		
	*	01770		FD	2*WEDNESDAY	02162	11063	50505		
	*	01771	YEAR	0		02163	13271	51106		
	*	01772	DAYNO	0		02164	36050	50505		
	*	01773	COMMA	56000	0	02165	30063	13227		
	*	01774	E	ENTRY		02166	11063	50505		
	*	01775		JP L(E)*STOP		02167	30322	31106		
	*	01776	TEMP	RESERVE	5	02170	36050	50505		
	*	C1777	HOURS	0		02171	22242	31106		
	*	C2000	MINS	0		02172	36050	50505		
	*	02001	SECS	0		02173	31321	23011		
	*	02002	FOROP	0		02174	08360	50505		
	*	C2003	NOPTS	0		02175	34121	12312		
	*	C2004	DELTIME	0004061115		02176	30110	53605		
	*	02005	FX	0		02177	00000	00000		
	*	C2006	TIME	0		02200	00000	00000		
	*	02007	MSWITCH	0		02201	56000	00000		
	*	02010	IRSWITCH	0	OELTAO	02202	61000	00000		
	*	02011		0		02203	61410	02202		
	*	02012	UTAGSWITCH	U-TAG	DATA+50000*DATA2	02204	00000	00000		
	*	02013	OATASWITCH	0	DATA	02211	00000	00000		
	*	02014		0	DATA2	02212	00000	00000		
	*	02015		0	RECAZIM	02213	00000	00000		
	*	02016	AZ1NSW	0	AZINEQ	02214	00000	00000		
	*	02017		0	RECELEV	02223	00000	00000		
	*	02020	ELINSM	0	ELINEQ	02224	74510	53000		
	*	02021		0	AZOUTEQ	02225	02611	71000		
	*	02022	AZOUTSW	0	AZIMOUT	02226	00000	53000		
	*	02023		0	ELOUTEQ	02227	00000	71000		
	*	02024	ELOUTSW	0	ELEVOUT	02230	00000	57000		
	*	02025		0	OPOUTEQ	02231	00000	75000		
	*	02026	OOPOUTSW	0		02232	00000	70000		
	*					02233	00000	75000		
	*					02234	00000	72000		
	*					02235	00000	54000		
	*					02236	00000	73000		
	*					02237	00000	55000		
	*					02240	00000	74000		

PRINTOUT

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CAROS	L1 TO LABEL	TA STATEMENT	LOC	F JK8 Y	NOTES
*	02027	O DOPPOUT	02241	00000 56000	
*	02030 MYHEAO	RESERVE 260	02242	00000 00000	
*	C2031 T1	FO 100* HH MM SS RA(OEG) OEC(OEG)	002274	05151 50522	
*		INSTANCE OISTOOT	02275	22053 03005	
*			02276	27065 11112	
*			02277	14400 50511	
*			02300	12105 11112	
*			02301	14400 50505	
*			02302	11163 03106	
*			02303	23101 20505	
*			02304	05051 11630	
*	02032	FO 100* RA00T AZIM ELEV	02305	31112 43105	
*		CAZIM TRUERANGE	02306	05050 52706	
*			02307	11243 10505	
*			02310	05050 50506	
*			02311	37162 20505	
*			02312	05051 22112	
*			02313	33050 50505	
*			02314	05100 53716	
*			02315	22050 50531	
*			02316	27321 22706	
*			02317	23141 20505	
*	02033	FO 60*RA(HMS)	02320	27065 11522	
*		OEC(OMS)	02321	30400 50505	
*			02322	05050 50511	
*			02323	12105 11122	
*			02324	30400 50505	
*			02325	05050 50505	
*	C2034 T2	FO 100* ANG RANGE00T OEC	CR02326	05050 50505	
*			02327	05050 50505	
*			02330	05302 70605	
*			02331	05050 50505	
*			02332	30111 21005	
*			02333	05050 50510	
*			02334	27062 31412	
*			02335	05052 70623	
*			02336	14121 12431	
*			02337	05051 11210	
*	02035	FO 100*00T SAZIM SEELEV	02340	11243 10505	
*		S10ERTIME	02341	05300 63716	
*			02342	22050 50505	
*			02343	30122 11233	
*			02344	05050 50510	
*			02345	12211 23305	
*			02346	05053 01611	
*			02347	12273 11622	
*			02350	12050 50505	
*	02036	FO 6*	02351	05050 50505	
*			02352	05050 50505	

\* \* \* \* \* PRINTOUT TA STATEMENT \* \* \* \* \*  
 SPURT OUTPUT NO. 210  
 JDO\* 1/22/65

CAROS	L1	IO LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
					02353	05050	50505		
					02354	05050	50505		
					02355	05050	50505		
					02356	05050	50505		
*	02037	BIGT	FO	100* TIME ACTUALAZ ACTUALEL COMANDO	02357	05050	50505		
			AZ	COMANDEL COMANDO	02361	05050	61031		
					02362	32062	10637		
					02363	05061	03132		
					02364	06211	22105		
					02365	10242	20623		
					02366	11063	70510		
					02367	24220	52311		
					02370	12210	51024		
					02371	22062	31124		
					02372	25250	52224		
*	02040		FO	6*PP MOSES	02373	11123	00505		
					02374	05050	50505		
					02375	05050	50505		
					02376	05050	50505		
					02377	05050	50505		
*	02041		FO	6*	02400	05050	50505		
					02401	05050	50505		
					02402	05050	50505		
					02403	05050	50505		
					02404	05050	50505		
					02405	05050	50505		
					02406	00000	00000		
					02502	00000	00000		
					02503	00000	00000		
					02504	00000	00000		
					02505	00000	00000		
					02506	00000	00000		
					02507	00000	00000		
					02510	00000	00000		
					02511	00000	00000		
					02512	00000	00000		
					02513	00000	00000		
					02514	00000	00000		
					02515	00000	00000		
					02516	00000	00000		
					02517	00000	00000		
					02520	00000	00000		
					02521	00000	00000		
					02522	00000	00000		
					02523	00000	00000		
					02524	00000	00000		
					02525	00000	00000		
					02526	00000	00000		
					02552	00000	00000		
					02576	00000	00000		
					02577	00000	00000		

		PRINTOUT		SPURT OUTPUT NO. 210 JUN 1/22/65			
CARD	L1 I/O LABEL	TAB STATEMENT		LOC	F JKR Y	NOTES	
	C2073	PL6RA0IUS	0	02600	00000 00000		
	02074	PL6RA0SOT	0	02601	00000 00000		
	C2075	PL6RA0UT	0	02602	00000 00000		
	C2076	PL6AZIM	0	02603	00000 00000		
	C2077	PL6ELEV	0	02604	00000 00000		
	02100	PL6CAZIM	0	02605	00000 00000		
	C2101	PL6TRURNG	0	02606	00000 00000		
	C2102	PL6SRA	0	02607	00000 00000		
	C2103	PL6SOEC	0	02610	00000 00000		
	C2104	PL6GRANGE	0	02611	00000 00000		
	02105	PL6RNGOOT	0	02612	00000 00000		
	C2106	PL6OECOOT	0	02613	00000 00000		
	02107	PL6SAZIM	0	02614	00000 00000		
	02110	PL6SELEV	0	02615	00000 00000		
	02111	PL6CELEV	0	02616	00000 00000		
	02112	PL6SORTME	0	02617	00000 00000		
	02113	PL6SYSTAT2	0	02620	00000 00000		
	02114	PL6SPARE1	0	02621	00000 00000		
	02115	INSERTX	JP WLLOOPX	02622	61000 01407		
	C2116	AZINEQ	EQUALS RECAZIM+OELTAO				
	C2117	ELINEQ	EQUALS RECELEV+OELTAO				
	02120	AZOUTEQ	EQUALS AZIMOUT+OELTAO				
	02121	ELOUTEQ	EQUALS ELEVOUT+OELTAO				
	02122	OPOUTEQ	EQUALS OPPOUT+OELTAO				
	02123	UNPACK	ENTRY STR A*(STOREUNPAK)				
	02124		PUT L(UNPACK)*L(PUTCOUNTER)	02625	10010 02623		
	02125			02626	14010 02632		
	02126		STR B3*L(SVB3)	02627	16310 02661		
	02127		STR B4*L(SVB4)	02630	16410 02662		
	02130	PUTCOUNTER	STR B5*L(SVB5)	02631	16510 02663		
	C2131		PUT W(0)*W(COUNTER)	02632	10030 00000		
	02132		RPL Y+1*L(UNPACK)	02633	14030 02664		
	02133		CL B3*	02634	36010 02623	INDEX RETURN POINT	
	C2134		PUT L(COUNTER)*L(GETPACK)	02635	12300 00000	CLEAR WORD COUNTER	
				02636	10010 02664	FWA OF PACKED TABLE	
	02135		ENT A*(UCOUNTER)	02637	14010 02645		
	02136		SUB A*1	02640	11020 02664	WORD COUNT	
	C2137		STR A*(LOOPLIMIT)	02641	21000 00001	WORD COUNT - 1	
	02140	LOOPSTART	CL B4*	02642	15010 02653		
	02141	LOOPSTART	ENT B5*4	02643	12400 00000	CLEAR CHARACTER COUNTER	
	02142	GETPACK	ENT Q*W(B3)	02644	12500 00004	SET TO LOOP 5 TIMES	
	02143	LOOP1	CL A*	02645	10033 00000	PACKED WORD	
	02144		LSH AQ*6	02646	11000 00000	CLEAR ACCUMULATOR	
	02145	STOREUNPAK	STR A*(LB4)	02647	07000 00006	NEXT CHARACTER OF PACKED WORD	
	C2146		BSK B4*77777	02650	15014 00000	STORE IN JNPCK TABLE	
	02147		B5*LOOP1	02651	71400 77777	INDEX JNPCK TABLE	
	02150	LOOPLIMIT	BSK B3*0	02652	72500 02646	FINISHED THIS WORD...	
	02151		JP LOOPSTART	02653	71500 00000	YES. FINISHED ALL WORDS...	
	C2152		ENT B3*L(SVB3)	02654	61000 02644	NO.	
	02153		ENT B4*L(SVB4)	02655	12310 02661		
				02656	12410 02662		

PRINTOUT						SPURT OUTPUT NO. 210 J00*1/22/65					
CAROS	L	IO LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES	
	-	02154	ENT B5•L(SVB5)	02657	12510	02663					
	-	C2155	EXIT	02660	61010	02623	YES.				
	-	02156	SVB3	02661	00000	00000					
	-	02157	SVB4	02662	00000	00000					
	-	02160	SVB5	02663	00000	00000					
	-	C2161	COUNTER	02664	00000	00000					
	-	02162	PRINT	02665	61000	00000				PRINT ON CONSOLE TYPEWRITER	
	-	02163	PUT W(JPRINTOVER)*W(62)	02666	10030	02723					
	-	C2164	PUT L(PRINT)*L(SETUP)	02667	14030	00062					
	-	02165	SETUP	02670	10010	02665					
	-	02166	PUT W(01)*W(UNPACKC00E)	02671	14010	02672					
	-	C2167	RPL Y+J*L(PRINT1)	02672	10030	00000					
	-	02170	ENT A•BUFFERPRNT+3	02673	14030	02677					
	-	02171	UNPACKC00E	02674	36010	02665				INDEX RETURN POINT	
	-	C2172	ENT Q•U(UNPACKC00E)	02675	11000	02730					
	-	02173	MUL 5	02676	55000	02623				JPACK FIELDATA TEXT	
	-	02174	A00 Q•BUFFERPRNT+3	02677	00000	00000					
	-	C2175	STR Q•L(STORECR)	02700	02677	00000					
	-	C2176	A00 Q*	02701	22000	00005				COUNT OF WORDS	
	-	02177	STR Q•L(STORELF)	02702	26000	00270				COUNT OF CHARACTERS	
	-	02200	ENT A•L(BUFFERPRNT1)	02703	14010	02707					
	-	02201	STORECR	02704	26000	00001					
	-	C2202	ENT A•L(BUFFERPRNT+2)	02705	14010	02711				TERMINATE LINE WITH CARRIAGE	
	-	C2203	STORELF	02706	11010	02725					
	-	02204	STR A•L(0)	02707	15010	00000					
	-	02205	LSH A•150	02710	1010	02727					
	-	C2206	SEL SET•BUFFERPRNT	02711	15010	00000					
	-	02207	STR A•W(PRINTBUFFC1)	02712	15010	00000					
	-	02210	OUT TYPE•W(PRINTBUFFC1)*MONITOR	02713	02712	14040	00000			LWA OF UNPACKED TEXT	
	-	02211	WAITPRINT	02714	06000	00017					
	-	C2212	PRINTOVER	02715	50000	02725					
	-	02213	RPT 10000	02716	76130	02724					
	-	02214	OIV )	02717	61000	02717					
	-	02215	EXIT	02718	70000	01750					
	-	C2216	RILJP PRINTOVER	02719	23000	00001					
	-	02217	PUT L(REAOTAPE)*L(INBUFFER)	02720	61010	02665					
	-	02220	03	02721	60100	02720				BUFFER CONTROL FOR PRINTING	
	-	C2221	04	02722	00000	00000					
	-	02222	RESERVE 1000	02723	00000	00000					
	-	02223	ENTRY	02724	00000	00000					
	-	02224	PUT L(REAOTAPE)*L(INBUFFER)	02725	00000	00003				LINE FEED	
	-	02225	RPL Y+1*L(READTAP)	02726	00000	00003				INDEX RETURN POINT	
	-	02226	CL R2*	02727	00000	00004				CARRIAGE RETURN	
	-	02227	INBUFFER	02728	00000	00000				ESTABLISH INPUT BUFFER	
	-	C2230	PUT W(JPC)SEXT1*W(351	03074	10030	03200					
	-	02231	EX-FCT TAPE•5200000004	03104	13670	07506				BINARY-HO TAPE ON UNIT 2	
	-	02232	WAIT1	03105	61000	03105				WAIT FOR INTERRUPT	

SPURT OUTPUT NO. 210 JOO-1/22/65					
CARD	L1	I0	LABEL	TA STATEMENT	LOC
					F JKB Y
	02233	C15EXTINT		STR TAPE#WISTAT)	03106
•	02234			ENT A#WSTAT1	17670 03323
•	02235			RSH A#10	03107 11020 03323
•	02236			A00 A#STATUSCOOE	03110 02000 00013
•	02237			STR A#LINTERJUMP	03111 20000 03137
•	02240			R1L	03112 15010 03114
•	02241	INTERJUMP		JP L(0)	03113 60000 00000
	02242	BACK		EXIT	03114 61010 00000
•	02243	INTERLOCK		PUT W(UNITNOINT1#WILOCKP)	61010 03074
•	02244			RJP PRINT	03116 10030 03136
•	02245			110 INTERLOCKP	14030 03131
•	02246			JP INBUFFER#STOP	03120 65000 02665
•	02247	INTERLOCKP		F0 6# THERE IS AN INTERLOCK ON UNIT	PRINT INTERLOCK MESSAGE
	02250	LOCKP		F0 5#C. CORRECT AND START.	03121 00013 03123
•	02251	UNITNOINT		F0 1#C.	03122 61400 03101
•	02252	STATUSCOOE		00 MACHERR	03123 31151 22712
•	02253			04 MACHERR	03124 05163 00506
•	02254			10 MACHERR	03125 23051 52331
•	02255			14 MACHERR	03126 12272 12410
•	02256			20 MACHERR	03127 20052 42305
•	02257			24 INBUFFER	03128 03231 53105
•	02260			30 MACHERR	03129 10750 50510
•	02261			34 MACHERR	03130 23132 24272
•	02262			40 BACK	71210 31050 52311
•	02263			44 PARITY	03133 03134 05303
•	02264			50 MACHERR	10627 31750 50505
•	02265			54 WRITEEOF	03136 10750 50505
•	02266			60 INPUTAPENO	03137 00000 03265
•	02267			64 MACHERR	NOT USED
•	02270			70 MACHERR	03140 00004 03266
•	02271			74 INTERLOCK	NOT USED
•	02272	MACHFAULT		F0 100#A MACHINE FAULT HAS OCCURRED ON 03157	FUNCTION "MRO ERROR
					NORMAL COMPLETION
					CHARACTER SYNC SEQUENCE ERROR
					REWINING
					CHAR SYNC CHAR COUNT ERROR
					END OF FILE
					END OF TAPE
					NOT USED
					ABNORMAL FRAME COUNT
					INTERLOCK FAULT
					MAGNETIC TAPE UNIT
					CONTROL UNIT SEQUENCE ERROR
					03158 00050 03266
					03159 00054 03253
					03160 00050 03266
					03161 13063 22131
					03162 05150 53005
					03163 24101 03227
					03164 27121 10524
					03165 23052 20614
					03166 23123 11610
					03167 05310 62512
					03170 05322 31631

SPURT OUTPUT NO. 210  
J00• 1/22/65

PRINTOUT

CAROS	L1 10 LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
.	02273 UNITNO	FO 5•C . THE STATUS CODE IS	03171	10057	50505
.			03172	31151	20530
.			03173	31063	13230
.	02274 F0STATCODE	FO 2*	03174	05102	41112
.	02276 PARITY	R1JP C1SEXINT PUT U1UNITNOINT)•U(PMSG)	03175	05163	00505
.	02277 JPC15EXT	RJP PRINT	03176	05050	50505
.	02300	110 PARITYMSG	03177	05050	50505
.	02301	JP MACHERR	03200	60100	03106
.	02302 TRYAGAIN	EX-FCT TAPE#2030000004	03201	10020	03136
.	02303	RPT 77777	03202	14020	03224
.	02304	NO-OP	03203	65000	02665
.	02305	JP INBUFFER	03204	00013	03212
.	02306 PARITYMSG	FO 100•A PARITY OCCURRED 10 TIMES ON AGNETIC TAPE UNIT	03205	61000	03266
.			03206	13670	07507
					BACKSPACE REC WITHOUT INTERR
.	02307 PMSG	FO 1•C.	03207	70000	77777
.	02310 TAPEARMMSG	RESERVE 110	03210	12000	00000
.	02311 FOTAPEPAR	FO 100•A PARITY OCCURRED ON INPUT TAPE03240 IN FOLLOWING L1	03211	61000	03101 REAO RECORD AGAIN
.			03212	06052	50627
.	03213	16313 60524	03213	10103	22727
.	03214		03214	12110	56124
.	03215		03215	05311	62212
.	03216		03216	30052	42305
.	03217		03217	22061	42312
.	03220		03220	31161	00531
.	03221		03221	06251	20532
.	03222		03222	23163	10505
.	03223		03223	03224	10750 50505
.	03224		03224	00000	00000 BCO PARITY MESSAGE
.	03225		03225	06052	50627
.	03241	16313 60524	03241	10103	22727
.	03242		03242	12110	52423
.	03243		03243	05162	32532
.	03244		03244	31053	10625
.	03245		03245	12051	62305
.	03246		03246	13242	12124
.	03250		03250	34162	31405
.	03251		03251	21160	50505
.	03252		03252	23127	50505
.	03253		03253	65000	02665
.	03254		03254	00010	03343
.	03255		03255	65000	00410
.	03256		03256	61010	00002
.	03257		03257	05107	50505
.	03260		03260	26321	23031
.	03261		03261	16242	30607
.	03262		03262	21120	51106
.	03263		03263	31060	51324
.	03264		03264	21212	43430

1•NE.  
PRINT  
EOFNEWS  
FINALIZER  
L(PORUN)  
1• C.  
6•QUESTIONABLE DATA FOLLOWS.

SPURT OUTPUT NO. 210  
J00\*1722/65

CAROS	L1	IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*	02321	MACHERR	RJP PBLANK 1 1280	03265	75050	50505		
*	02322		RJP E	03266	65000	05621		
*	02323		RJP PFO	03267	00001	00200		
*	02324		RJP O BAONEWS	03270	65000	02202		
*	02325		300 1	03271	65000	05557		
*	02326		RJP E	03272	00000	03260		
*	02327		RJP PSCRIB	03273	00036	00001		
*	02330		0 3	03274	65000	02202		
*	02331		RJP E	03275	65000	06057	OSCRIB	
*	02332		RJP PBLANK 1 1280	03276	00000	00003		
*	02333		RJP E	03277	65000	02202		
*	02334		RJP L (READTAPE)	03300	65000	05621	OBLANK	
*	02335		JP ENTRY	03301	00001	00200		
*	02336		CL A*	03302	65000	02202		
*	02337	KOCTTOFO	LSH AQ*3	03303	61010	03074		
*	02340		LSH A*3	03304	61000	00000		
*	02341		LSH AQ*3	03305	11000	00000		
*	02342		LSH A*3	03306	07000	00003		
*	02343		LSH AQ*3	03307	06000	00003		
*	02344		LSH A*3	03310	07000	00003		
*	02345		LSH AQ*3	03311	06000	00003		
*	02346		LSH A*3	03312	07000	00003		
*	02347		LSH AQ*3	03313	06000	00003		
*	02350		LSH A*3	03314	07000	00003		
*	02351		LSH AQ*3	03315	06000	00003		
*	02352	DUMMY	NO-OP	03316	07000	00003		
*	02353		A00 A*W( EXCESS60 )	03317	12000	00000		
*	02354		EXIT	03320	20030	03322		
*	02355	EXCESS60	60606 06060	03321	61010	03304		
*	02356	STAT	0 EX-FCT TAPE#2030000004	03322	60606	06060		
*	02357	INPUTAPENO	RJP PRINT	03323	00000	00000		
*	02360		110 EOTNEWS	03324	13670	07507		
*	02361		JP L(BACK)*STOP	03325	65000	02665		
*	02362		FO 110*END OF TAPE***MOUNT NEXT TAPE	03326	00013	03330		
*	02363	EOTNEWS	NO HI SPEED TO RESUM	03327	61410	03115		
*	02364	EOFNEWS EM...	FO BO*END OF FILE***RETURNING TO SYST03343	03328	12231	10524		
*				03331	13053	10625		
*				03332	12757	57522		
*				03333	24322	33105		
*				03334	23123	53105		
*				03335	31062	51205		
*				03336	06231	10515		
*				03337	16053	02512		
*				03340	12110	53124		
*				03341	05271	23032		
*				03342	22050	50505		
*				03344	13051	31621		
*				03345	12757	57575		
*				03346	27123	13227		
*				03347	23162	31405		

SPURT OUTPUT NO. 210  
JOD\*1/22/65

CARDS	L1	ID LABEL	TA STATEMENT	PRINTOUT	LOC	F	JKB	Y	NOTES
					03350	31240	53036		
					03351	30311	22275		
					03352	75750	50505		
					03353	06230	51223		
					03354	11052	41305		
					03355	31062	51205		
					03356	15063	DD524		
					03357	10103	22727		
					03360	12110	52423		
					03361	05322	31631		
					03362	05057	50515		
					03363	06231	4D523		
					03364	12340	53106		
					03365	25120	50623		
					03366	11053	03106		
					03367	27317	5D505		
					03370	00000	00000		
					03371	00000	00000		
					03372	06050	50505		
					03373	77777	03374		
					03374	12211	21031		
					03375	05247	42575		
					03376	75750	51530		
					03377	25055	12440		
					03400	05050	71011		
					03401	05310	52512		
					03402	05516	14D05		
					03403	03404	05516	24005	
					03405	77777	77777		
					03406	11050	5D505		
					03407	00011	03412		
					03410	00000	00000		
					03411	00000	00002		
					03412	00000	0DD00		
					03413	61000	0D000		
					03414	15030	03462		
					03415	14030	03463		
					03416	16110	03464		
					03417	16210	03465		
					03420	16310	03466		
					03421	16410	03467		
					03422	16510	03470		
					03423	16610	03471		
					03424	16710	03472		
					03425	61010	03413		
					03426	61000	0D000		
					03427	11030	03462		
					03430	10030	03463		
					03431	12110	03464		
					03432	12210	03465		

02365 ENO0FTAPM      FD    7\*AN END OF TAPE HAS OCCURRED ON UNO3353

02366 ENOTAPEM      FD    6\*   \* HANG NEW TAPE AND START.

02367 HSPOUTPUT      O     

02370 BC00UTPUT      D     

02371 BC00UES      FD    1\*A

02372      -D    \$+1

02373      FD    D\*ELECT O/P... HSP (D)      BCO TAPE      1103374

1      BOTH 121

-0      0

02375 BCOANS      FD    1\*D

02376      11 ANSOUTPUT

02377      O

02400      2

02401 ANSOUTPUT      O

02402 SAVEALL

02403      ENTRY A\*W(KP)

02404      STR Q\*W(KPQ)

02405      STR B1\*L(KP1)

02406      STR B2\*L(KP2)

02407      STR B3\*L(KP3)

02410      STR B4\*L(KP4)

02411      STR B5\*L(KP5)

02412      STR B6\*L(KP6)

02413      STR B7\*L(KP7)

02414      EXIT

02415 RSTORALL

02416      ENTRY A\*W(KP)

02417      ENT Q\*W(KPQ)

02418      ENT B1\*L(KP1)

02419      ENT B2\*L(KP2)

SPURT OUTPUT NO. 210  
J00\*1/22/65

CAROS	L1	IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	02422		ENT 83*L(KP3)	03433	12310	03466		
	C2423		ENT 84*L(KP4)	03434	12410	03467		
	02424		ENT 85*L(KP5)	03435	12510	03470		
	02425		ENT 86*L(KP6)	03436	12610	03471		
	02426		ENT 87*L(KP7)	03437	12710	03472		
	C2427		EXIT	03440	61010	03426		
	02430	TOREWQ	FO 1*A	03441	06050	50505		
	02431		\$+1	03442	77777	03443		
	02432		FO O*TAPE IS OK(0) REWIND IT(11 ENO F103443	31062	51205			
			LE+REWIND(21)					
	02433		-0	03444	16300	52420		
	02434	TOREWA	FO 1*0	03445	51244	00527		
	02435		11 REWORN	03446	12341	62311		
	C2436		0	03447	05163	15161		
	02437		2	03450	40051	22311		
	02440	REWORN	0	03451	05131	62112		
	02441	KPA	0	03452	42271	23416		
	02442	KPQ	0	03453	23115	16240		
	02443	KP1	0	03454	77777	77777		
	02444	KP2	0	03455	11050	50505		
	02445	KP3	0	03456	00011	03461		
	C2446	KP4	0	03457	00000	00000		
	02447	KP5	0	03458	00000	00002		
	02450	KP6	0	03459	00000	00000		
	02451	KP7	0	03460	00000	00000		
	C2452	TAPEOUTPUT	ENTRY	03461	00000	00000		
	02453		RJP SAVEALL	03462	00000	00000		
	02454		RJP TRANSLATE	03463	00000	00000		
	02455		1300 PBUF+1	03464	00000	00000		
	C2456		ENT A*BCOBLOCK	03465	00000	00000		
	02457		RJP PACK	03466	00000	00000		
	02460		1300 PBUF	03467	00000	00000		
	02461		RJP WRITE	03468	00000	00000		
	02462		U-TAG BCOBLOCK+250*BCOBLOCK	03469	00000	00000		
	02463		RJP RSTORALL	03470	00000	00000		
	02464	BCOBLOCK	EXIT	03471	00000	00000		
	02466	CARRIAGEC	RESERVE 260	03472	00000	00000		
	02467	LAYOUT	RESERVE 1300	03473	00000	00000		
	02470	TOPOFPAGE	0 01	03474	00000	00001		
	02471	DOUBLESP	0 12	03475	00000	00012		
	C2472	SINGLESPP	0 20	03476	61000	00020	WRITE J401 BCO TAPE	
	02473	WRITE	ENTRY	03477	10010	03746	SET ADDRESS OF BUFFER CONTROL	
	02474		PUT L(WRITE1*L(WRITEOUT))				WORD	

PRINTOUT NO. 210  
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CARDS	L1	IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
.	C2475 02476		RPL Y+1*L(WRITE) PUT W(JP INTERRUP)*W(35)	03750 03751 03752 03753 03754 03755 03756 03757	14010 36010 10030 14030 13670 60000 74670 61000	03756 03746 03760 00035 07510 00000 00000 03757		SET FOR NORMAL RETURN SET INTERRUPT REGISTER
.	02477	WRITEAGAIN	EX-FCT C15*1220000010	03758	14030	00035		WRITE RCO HO w/INTERRUPT
.	C2500	WRITEOUT	RIL OUT C15*H(0)	03759	13670	07510		
.	02501	HERE	JP HERE	03760	74670	00000		
.	C2502	JPINTERRUP	RIL UP INTERRUPT	03761	60100	03761		
.	02503	INTERRUP	STR C15*W(CHANNEL)	03762	17670	04011		
.	02504	INTERRUP	ENT A*W(CHANNEL)	03763	11020	04011		PICK UP STATUS WORO
.	02505		RSH A* 110	03764	02000	00013		
.	C2506		A00 A*STATCOOE	03765	20000	04012		LOCATION OF STATUS JUMP TABLE
.	02507		STR A*INTJUMP)	03766	15010	03766		
.	02510	INTJUMP	JP L(0)	03767	61010	00000		JUMP TO APPROPRIATE STATUS TIME
.	02511		PUT L(WRITE)*L(READTAPE)	03768	10010	03746		
.	02512	BAOMCH	JP MACHERR	03769	14010	03074		
.	02513		EX-FCT C15* 2030000010	03770	61000	03266		
.	C2514	REOUNOANT	RPT 77777	03771	13670	07511		BACKSPACE 1 RECORD
.	02515		OIV 1	03772	70000	77777		
.	02516		EX-FCT C15*0030000010	03773	23000	00001		
.	02517		RPT 77777	03774	13670	07512		ERASE FORWARD
.	C2520		OIV 1	03775	70000	77777		
.	02521		JP WRITEAGAIN	03776	23000	00001		
.	02522	ENOTAPE	EX-FCT C15*0230000010	03777	04000	61000	03754	REWRITE RECORD
.	02523		RJP PRINT	03778	04001	13670	07513	#RITE EN0-OF-FILE HO
.	C2524		90 NEWTAPE	03779	04002	65000	02665	
.	C2525		EX-FCT C15*2110000010	03780	04003	00011	04033	
.	02526		EXIT STOP	03781	04004	13570	07514	REWIND WITH INTERLOCK
.	02527		RJP PRINT	03782	04005	61410	03746	
.	C2530	INTERLOCK	120 WAKEUP	03783	04006	65000	02665	
.	02531		JP WRITEOUT*STOP	03784	04007	00014	04044	
.	02532		O	03785	04010	61400	03756	
.	02533	CHANNEL	0	03786	04011	00000	00000	
.	C2534	STATCOOE	00 BAOMCH	03787	04012	00000	03767	NOT USED
.	02535		04 BAOMCH	03788	04013	00004	03767	NOT USED
.	02536		10 BAOMCH	03789	04014	00010	03767	NOT USED
.	02537		14 BAOMCH	03790	04015	00014	03767	NOT USED
.	C2540		20 BAOMCH	03791	04016	00020	03767	CHAR SYNC SEQUENCE ERROR
.	02541		24 WRITEOUT	03792	04017	00024	03767	REWINDING
.	02542		30 BAOMCH	03793	04020	00030	03767	CHARACTER COUNT ERROR
.	02543		34 BAOMCH	03794	04021	00034	03767	FUNCTION WORO ERROR
.	02544		40 WRITE	03795	04022	00040	03746	NORMAL COMPLETION
.	02545		44 REOUNOANT	03796	04023	00044	03772	PARTIAL
.	02546		50 BAOMCH	03797	04024	00050	03767	CONTROL UNIT SEQUENCE ERROR
.	02547		54 BAOMCH	03798	04025	00054	03767	ENO OF FILE
.	02550		60 ENOTAPE	03799	04026	00060	04001	ENO OF TAPE
.	02551		64 BAOMCH	03800	04027	00064	03767	NOT USED
.	02552		70 BAOMCH	03801	04030	00070	03767	ABNORMAL FRAME COUNT
.	02553		74 INTERLOCK	03802	04031	00074	04006	INTERLOCK
.	C2554	WRITESERO	F0 1*0. C	03803	04032	11750	50510	
.	02555	NEWTAPE	F0 90*NEW OUTPUT TAPE ON UNIT AN04033	03804	04033	22331		

\*\*\*\*\* PRINTOUT \*\*\*\*\* SPURT OUTPUT NO. 210  
 J00\*1/22/65

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F JK6 Y	NOTES
		O START.	04 034	05231 23405	
			04 035	24323 12532	
			04 036	31053 10625	
			04 037	12052 42305	
			04 040	32231 53105	
			04 041	06231 10530	
			04 042	31062 73175	
			04 043	05050 50505	
			04 044	16233 11227	
			04 045	21241 02005	
			04 046	13063 22131	
			04 047	05242 30524	
			04 050	32312 53231	
			04 051	05310 62512	
			04 052	05322 31631	
			04 053	05057 50513	
			04 054	16350 51631	
			04 055	05062 31105	
			04 056	30310 62731	
			04 057	75050 50505	
			04 060	61000 00000	TRANSLATE FIELDATA TO BCO
		ENTRY	04 061	10010 04060	
		PUT L(TRANSLATE)*L(TRANS)	04 062	14010 04063	
			04 063	10030 00000	
		PUT W(0)*W(COUNT)	04 064	14030 04103	
		PUT L(COUNT)*L(TRANS1)	04 065	10010 04103	FWA OF FIELDATA TEXT
			04 066	14010 04073	
		PUT W(0)*W(COUNT)	04 067	14010 04077	
		PUT W(0)*W(COUNT)	04 070	36010 04060	INDEX RETURN POINT
		PUT W(0)*W(COUNT)	04 071	37020 04103	CHARACTER COUNT = 1
		PUT W(0)*W(COUNT)	04 072	12200 00000	CLEAR CHARACTER COUNTER
		PUT W(0)*W(COUNT)	04 073	11012 00000	NEXT CHARACTER OF FIELDATA TEXT
			04 074	20000 04104	
			04 075	15010 04076	ADDRESS OF BCO CHARACTE
			04 076	11010 00000	BCO TRANSLATION OF FO CHARACTE
			04 077	15022 00000	R STORE BCO IN UPPER HALF OF FO
			04 100	71220 04103	TEXT HAVE WE TRANSLATED ALL CHARACT
			04 101	61000 04073	ERS...
			04 102	61010 04060	NO.
			04 103	00000 00000	YES. RETURN
			04 104	00000 00020	SPACE
			04 105	00001 00020	SPACE
			04 106	00002 00020	SPACE
			04 107	00003 00013	
			04 110	00004 00020	SPACE
			04 111	00005 00020	SPACE
			04 112	00006 00061	A

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CARDS	LL TO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*	C2610	07 62	041113	00007	00062	B	
02611	10 63	04114	00010	00063	C		
02612	11 64	04115	00011	00064	O		
02613	12 65	04116	00012	00065	E		
C2614	13 66	04117	00013	00066	F		
02615	14 67	04120	00014	00067	G		
02616	15 70	04121	00015	00070	H		
02617	16 71	04122	00016	00071	I		
C2620	17 41	04123	00017	00041	J		
02621	20 42	04124	00020	00042	K		
02622	21 43	04125	00021	00043	L		
02623	22 44	04126	00022	00044	M		
C2624	23 45	04127	00023	00045	N		
02625	24 46	04130	00024	00046	O		
02626	25 47	04131	00025	00047	P		
02627	26 50	04132	00026	00050	Q		
C2630	27 51	04133	00027	00051	R		
02631	30 22	04134	00030	00022	S		
02632	31 23	04135	00031	00023	T		
02633	32 24	04136	00032	00024	U		
C2634	33 25	04137	00033	00025	V		
02635	34 26	04140	00034	00026	W		
02636	35 30	04141	00035	00030	X		
02637	36 30	04142	00036	00030	Y		
C2640	37 31	04143	00037	00031	Z		
02641	40 74	04144	00040	00074	1		
02642	41 40	04145	00041	00040	-		
02643	42 60	04146	00042	00060	+		
C2644	43 20	04147	00043	00020			
02645	44 13	04148	00044	00013			
02646	45 20	04151	00045	00020			
02647	46 60	04152	00046	00060	AMPERSAND		
C2650	47 53	04153	00047	00053	DOLLAR SIGN		
02651	50 54	04154	00050	00054	ASTERISK		
02652	51 34	04155	00051	00034	!		
02653	52 14	04156	00052	00014	QUOTATION MARK		
02654	53 13	04157	00053	00013	COLON		
02655	54 20	04160	00054	00020	SPACE		
02656	55 20	04161	00055	00020	SPACE		
02657	56 33	04162	00056	00033	'		
C2660	57 20	04163	00057	00020	SPACE		
02661	60 12	04164	00060	00012	O		
02662	61 01	04165	00061	00001	I		
02663	62 02	04166	00062	00002	2		
C2664	63 03	04167	00063	00003	3		
02665	64 04	04170	00064	00004	4		
02666	65 05	04171	00065	00005	5		
02667	66 06	04172	00066	00006	6		
C2670	67 07	04173	00067	00007	7		
C2671	70 10	04174	00070	00010	8		
02672	71 11	04175	00071	00011	9		
02673	72 14	04176	00072	00014	APOSTROPHE		
C2674	73 73	04177	00073	00073	SEMICOLON = PERIOD		

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CAROS	L1 10 LABEL	TA STATEMENT	PRINTOUT			LOC	F	JKB	Y	NOTES
			J	K	B					
	02675	74 21				04200	00074	00021		/
	02676	75 73				04201	00075	00073		*
	02677	76 20				04202	00076	00020		SPACE
	02700	77 20	ENTRY	A*L(STOREPACK)		04203	00077	00020		STOP
	02701	PACK	STR	L(PUTCOUNT)		04204	61000	00000		PACK 5 CHARACTERS PER WORD
	02702		PUT	L(PACK1*L(PUTCOUNT)		04205	15010	04232		FNA OF PACKED TABLE
	02703					04206	10010	04204		
	02704	PUTCOUNT	PUT	W(0)*W(WOROCOUNT)		04207	14010	04210		
	02705		RPL	Y+1*L(PACK)		04211	14030	04236		
	02706		CL	B3		04212	36010	04204		INDEX RETURN POINT
	02707		PUT	L(WOROCOUNT)*L(GETCHAR)		04213	12300	04200		CLEAR WORD COUNTER
	02710		ENT	Q*U(WOROCOUNT)		04214	10010	04236		
	02711		CL	A		04215	14010	04227		
	02712		OIV	5		04216	10020	04236		CHARACTER COUNT
	02713		SUB	Q*1		04217	11000	00000		
	02714		STR	Q*L LOOPLIMIT2		04220	23000	00005		{CHARACTER COUNT}/5
	02715		CL	B4		04221	27000	00001		PACKED WORD COUNT - 1
	02716	LOOPSTART2	ENT	B5*4		04222	14010	04233		
	02717		CL	A		04223	12400	00000		CLEAR CHARACTER COUNTER
	02720	LOOP2	LSH	A*6		04224	12500	00004		SET TO LOOP 5 TIMES
	02721	GETCHAR	SEL	SET*U(B4)		04225	11000	00000		CLEAR ACCUMULATOR
	02722		BSK	B4*77777		04226	06000	00006		
	02723		BUP	B5*LOOP2		04227	50024	00000		ADD NEXT CHARACTER
	02724	STOREPACK	STR	A*W(B31		04228	71400	77777		INDEX UNPACK TABLE
	02725	LOOPLIMIT2	BSK	B3*0		04229	72500	04226		FINISHED THIS WORD..
	02726		JP	LOOPSTART2		04230	15033	00000		YES. STORE UNPACKED WORD
	02727		EXIT	0		04231	71300	00000		FINISHED STORING PACKED WORDS
	02730	WOROCOUNT	O	0		04234	61000	04224		NO
	02731	ENOTAPEU	FO	1* C.		04235	61010	04204		YES.
	02732	DECINOMS	ENTRY			04236	00000	00000		
	02733		CL	W(OECSIGN)		04237	05107	50505		
	02734		JP	\$+3*QPOS		04240	61000	00000		
	02735		STR	B0*CPW(OECSIGN)		04241	16030	04271		
	02736		CP	Q*		04242	60200	04245		
	02737		MUL	W(0360B31		04243	16070	04271		
	02740		STR	A*W(OECOE61		04244	14000	00000		
	02741		CL	A*		04245	22030	04272		
	02742		RSH	AQ*1		04246	15030	04273		
	02743		MUL	W(060B11		04247	11000	00000		
	02744		STR	A*W(OECMIN)		04248	04250	03000		
	02745		CL	A*		04249	22030	04333		
	02746		RSH	AQ*1		04250	15030	04275		
	02747		MUL	W(060B11		04251	11000	00000		
	02750		STR	A*W(OECSEC1		04252	04253	15030		
	02751		CL	A*		04253	11000	00000		
	02752		RSH	AQ*1		04254	03000	00001		
	02753		MUL	200*QPOS		04255	22030	04333		
	02754		A00	A*1		04256	15030	04275		
	02755		STR	A*W(OECSECXX1		04257	11000	00000		

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CAROS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	02756			SUB A*100*AZERO	04264	21400	00012		
	02757			EXIT	04265	61010	04240		
	02760			STR A*W(0ECSXXX)	04266	15030	04276		
	02761			RPL Y+1*W(0ECSSEC1)	04267	36030	04275		
	02762			EXIT	04270	61010	04240		
	02763		OEC\$IGN	0	04271	00000	00000		
	02764		0360B3	0000005500	04272	00000	05500	0EC	360.B3
	02765		OEC\$EG	0	04273	00000	00000		
	02766		OEC\$IN	0	04274	00000	00000		
	02767		OEC\$EC	0	04275	00000	00000		
	02770		OEC\$ECXX		04276	00000	00000		
	02771		NEGSIGN	41000 0	04277	41000	00000		
	02772		OECPOINT	75000 0	04300	75000	00000		
	02773		RAINHH	ENTRY	04301	61000	00000		
	02774			CL W(RASIGN1)	04302	16030	04334		
	02775			JP \$+3*QPOS	04303	60200	04306		
	02776			STR B0*CPW(RASIGN)	04304	16070	04334		
	02777			CP Q*	04305	14000	00000		
	03000			MUL W(02BB31)	04306	22030	04332		
	03001			STR A*W(RAHH1)	04307	15030	04335		
	03002			CL A*	04310	11000	00000		
	03003			RSH AQ*1	04311	03000	00001	F	HRSS B29
	03004			MUL W(D6OB1)	04312	22030	04333		
	03005			STR A*W(RAMM1)	04313	15030	04336	MIN	B0
	03006			CL A*	04314	11000	00000		
	03007			RSH AQ*1	04315	03000	00001	F	MIN B29
	03010			MUL W(06OB11)	04316	04333			
	03011			STR A*W(RASS1)	04317	15030	04337		
	03012			CL A*	04320	11000	00000		
	03013			RSH AQ*1	04321	03000	00001	F	SEC B29
	03014			MUL 2000*QPOS	04322	22200	00310		
	03015			A00 A*1	04323	20000	00001		
	03016			STR A*W(RASSXXX)	04324	15030	04340		
	03017			SUB A*1000*AZERO	04325	21400	00144		
	03020			EXIT	04326	61010	04301		
	03021			STR A*W(RASSXX)	04327	15030	04340		
	03022			RPL Y+1*W(RASS1)	04330	36030	04337		
	03023			EXIT	04331	61010	04301		
	03024		024B3	0000000300	04332	00000	00300	0EC	24.B3
	03025		06OB1	0000000170	04333	00000	00170	0EC	60.B1
	03026		RASIGN	0	04334	00000	00000		
	03027		RAHH	0	04335	00000	00000		
	03030		RAMM	0	04336	00000	00000		
	03031		RASS	0	04337	00000	00000		
	03032		RASSXX	0	04340	00000	00000		
	03033		LABELA	FO 100* TIME INCOMING INCOMING COMMAND04341	05311	52212			
				O COMMAND RECD R					

\*\*\*\*\* PRINTOUT \*\*\*\*\* SPURT OUTPUT NO. 210  
 JDN\*1/22/65

CAROS	L1 IO LABEL	TA STATEMENT	LOC	F JKBY	NOTES
			04350	242222	20623
			04351	11050	52712
			04352	10334	10527
			04353	74060	50505
*	03034	FO 100*/A RECOV OECLN COMM R/A OHNO OECLN COMM 00	04354	27121	03311
			04355	05111	21021
			04356	23050	51024
			04357	22231	10527
			04360	74060	50505
			04361	10242	22311
			04362	05111	21021
			04363	23051	02422
			04364	23110	51124
*	03035	FO 2*PLR MODES H ELEVATION HH MM S	04365	25212	70522
*	03036 LABELB	FO 100* SECs AZIMUTH ELEVATION AZIMUTH 04367	04366	24111	23005
*	03037	FO 100*SS 000 MM SS.S 00 MM SS.S CYCLES/S	04370	05050	63716
			04371	22323	11505
			04372	12211	23306
			04373	31162	42305
			04374	06371	62232
			04375	31150	51221
			04376	12330	63116
			04377	24230	51515
			04400	05222	20530
			04401	30753	03005
			04402	11111	10522
			04403	22053	03075
			04404	30050	51515
			04405	05222	20530
			04406	30753	03005
			04407	11111	10522
			04410	22053	03075
			04411	30051	03610
			04412	21123	07430
			04413	12107	50506
			04414	07101	11205
			04415	31163	12112
			04416	06050	50505
			04417	77777	04420
			04420	31163	12112
			04421	05132	42121
			04422	24343	00505
			04423	77777	77777
			04424	06050	50505
			04425	77777	02072
			FO4426	31151	53005
			04427	16300	50623
			04430	05061	01225

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CARD#	L1 TO LABEL	TA STATEMENT	PRINTOUT	LOC	F JK8 Y	NOTES
				04431	15062	12432
				04432	30052	12414
				04433	16100	52105
				04434	13162	11205
				04435	05050	50505
				04436	05050	50505
				04437	05050	50505
				04440	05050	50505
				04441	05050	50505
				04442	05050	50505
				04443	05050	50505
				04444	05050	50505
				04445	05050	50505
				04446	05050	50505
				04447	05050	50505
				04450	05050	50505
				04451	05050	50505
				04452	05050	50505
				04453	05050	50505
				04454	05050	50505
				04455	05050	50505
				04456	05050	50505
				04457	05050	50505
				04460	06050	50505
				04461	77777	04462
				04462	24242	53056
				04463	75757	52324
				04464	05311	63121
				04465	12050	50505
				04466	77777	77777
				04467	06050	50505
				04470	77777	04471
				04471	14223	10530
				04472	31062	73105
				04473	51151	52222
				04474	30304	00505
				04475	77777	77777
				04476	11050	50505
				04477	00011	04502
				04500	00000	00000
				04501	00016	51400
				04502	00000	00000
				04503	06050	50505
				04504	77777	04505
				04505	14223	10512
				04506	23110	55115
				04507	15222	23030
				04510	40050	50505
				04511	77777	77777
				04512	11050	50505
				04513	00011	04517
				04514	00000	00000

PRINTOUT  
 J00•1/22/65

03051 F0 100\*  
 03052 F0 6\*  
 03053 BEHEAOEO F0 1\*A  
 C3054 . -0 \$+1  
 C3055 . 0\*0PS,...NO TITLE  
 03056 -0  
 C3057 STQUES F0 1\*A  
 03060 . -0 \$+1  
 C3061 . F0 0\*GMT START (HHMMSS)  
 C3062 -0  
 03063 STANS F0 1\*0  
 03064 . 11 ANSSTM  
 03065 . 0 0  
 C3066 480000D  
 03067 ANSSTM 0  
 03070 ETQUES F0 1\*A  
 03071 . -0 \$+1  
 C3072 . F0 0\*GMT ENO (HHMMSS)  
 C3073 -0  
 03074 ETANS F0 1\*0  
 03075 . 11 ANSENTH  
 03076 . 0 0

SPURT OUTPUT NO. 210  
J00•1/22/65

CARD	L1	I0	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
			C3077		4800000	04515	00015	51400		
			03100	QNSERTA	JP QWLOOP	04516	61000	00337		
			03101	ANSENTHM	O	04517	00000	00000		
			03102	COMPAREST	O	04520	00000	00000		
			C3103	COMPARET	O	04521	00000	00000		
			03104	HAXETIME	3777777777	04522	37777	77777		
			03105	OMSHRS	O	04523	00000	00000		
			03106	OMSMINS	O	04524	00000	00000		
			03107	OMSECS	O	04525	00000	00000		
			03110	OMEHRS	O	04526	00000	00000		
			03111	OMEHMS	O	04527	00000	00000		
			03112	OMESECS	O	04530	00000	00000		
			C3113	OMSECTG	O	04531	00000	00000		
			03114	OMSECTTG	O	04532	00000	00000		
			03115	CSKEY	F0 1* MCPGM	04533	22102	51422		
			03116	TELLONE	F0 1*A	04534	06050	50505		
			C3117	-0 S+1		04535	77777	04536		
			03120	0*00NE.....	F0	04537	11242	31275		
			03121	-0		04540	75755	57505		
			C3122	ASTARX	50000 00000	04541	50000	00000		
			03123	ROCONV	ENTRY	04542	61000	00000		
			03124		JP ROSTART	04543	04551			
			03125	ROPA	O	04544	00000	00000	AZ IN REV B19	
			C3126	ROPE	O	04545	00000	00000	EL IN REV B19	
			03127	ROPR	O	04546	00000	00000	TRUERANGE	
			03130	ROPS	O	04547	00000	00000	SIOERTIME BEGIN THIS FRAME	
			03131	ROPG	O	04550	00000	00000	AGE THIS POINT THIS FRAME IV S	
			03132	ROSTART	ENT A*W(ROINIT!NO1*ANEG	04551	11730	05027		
			03133		JP ROINIT	04552	61000	04762	FIRST TIME THROUGH	
			03134		ENT Q*W(ROPA)	04553	10030	04544	YES	
			C3135		LP*W(RO19BITS)	04554	40030	05031		
			03136		LSH AQ*3BO	04555	07000	00046		
			03137		MUL W(ROTHSIXTY)	04556	22030	05033		
			03140		LSH AQ*3	04557	07000	00003		
			C3141		STR A*W(ROAZI	04560	15030	05034		
			03142		ENT Q*W(ROPE)	04561	10030	04545		
			03143		ENT LP*W(RO19BITS)	04562	40030	05031		
			03144		LSH AQ*3BO	04563	07000	00046		
			C3145		MUL W(ROTHSIXTY)	04564	22030	05033		
			03146		LSH AQ*3	04565	07000	00003		
			03147		STR A*W(ROEL)	04566	15030	05035		
			03150		ENT Q*W(ROPR1*ANOT	04567	11530	04546	IS RANG	
			03151		JP ROSETK	04570	61000	04607		
			03152		ENT A*W(ROPR1*APOS	04571	11630	04546		
			C3153		CP A*	04572	15040	00000		
			03154		STR Q*W(ORANGE)	04573	15030	05036		
			C3155		CL Q*	04574	10000	00000		
			03156		ENT A*W(ROK11	04575	11030	05037		
			03157		RSH AQ*90	04576	03000	00011		
			03160		OIV W(ORANGE) I	04577	23030	05036		
			C3161		STR Q*W(ROK111	04600	14030	05040		

SPURT OUTPUT NO. 210  
JOO\* 1/22/65

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
	03162	ENT A*W(ROK21)	04601	11030	05041				
	03163	CL Q*	04602	10000	00000				
	03164	RSH AQ*90	04603	03000	00011				
	03165	OIV W(ROANGE)	04604	23030	05036				
	03166	STR Q*W(ROK21)	04605	14030	05042				
	03167	JP \$+3	04606	61000	04611				
	03170	ROSETK CL W(ROK11)	04607	(6030	05040	RANGE (S	INFINITE		
	03171	CL W(ROK21)	04610	16030	05042				
	03172	ENT A*W(WRAOZ1)	04611	11030	05034				
	03173	ENT Q*W(ROTSF)	04612	10030	05043				
	03174	RJP COS	04613	65000	05140				
	03175	STR A*W(ROCOSAZ)	04614	15030	05044				
	03176	ENT A*W(WRAOZ1)	04615	11030	05034				
	03177	ENT Q*W(ROTSF)	04616	10030	05043				
	03200	RJP SIN	04617	65000	05151				
	03201	STR A*W(WROSINA1)	04620	15030	05045				
	03202	ENT A*W(WROEL1)	04621	11030	05035				
	03203	ENT Q*W(ROTSF)	04622	10030	05043				
	03204	RJP COS	04623	65000	05140				
	03205	STR A*W(ROCOSEL1)	04624	15030	05046				
	03206	ENT A*W(WROEL1)	04625	11030	05035				
	03207	ENT Q*W(ROTSF)	04626	10030	05043				
	03210	RJP SIN	04627	65000	05151				
	03211	STR A*W(WROSINEL1)	04630	15030	05047				
	03212	ENT Q*W(WROTSEC1)	04631	10030	05050				
	03213	MUL W(ROPG1)	04632	22030	04550				
	03214	ADO A*W(WROPS1)	04633	20030	04547				
	03215	SUB A*W(WROTHS(XTY1)*APOS	04634	21630	05033				
	03216	A00 A*W(WROTHS(XTY1)	04635	20030	05033				
	03217	STR A*W(WROSITEDR1)	04636	15030	05051				
	03220	ENT Q*W(ROTSF)	04637	10030	05043				
	03221	RJP COS	04640	65000	05140				
	03222	STR A*W(WROCOSSITE1)	04641	15030	05052				
	03223	ENT A*W(WROSITEDR1)	04642	11030	05051				
	03224	ENT Q*W(ROTSF)	04643	10030	05043				
	03225	RJP SIN	04644	65000	05151				
	03226	STR A*W(WROSINSITE1)	04645	15030	05053				
	03227	ENT Q*W(WCOSEL1)	04646	(0030	05046				
	03230	MUL W(ROCOOSAZ)	04647	22030	05044				
	03231	LSH AQ*330	04650	07000	00041				
	03232	MUL W(WROCOOSPHEE1)	04651	22030	05073				
	03237	LSH AQ*2	04656	07000	00002				
	03240	SUB A*W(WROTEMP1)	04657	21030	05054				
	03241	A00 A*W(WROK11)	04660	20030	05040				
	03242	STR A*W(WROFACT1)	04661	15030	05055				
	03243	LSH AQ*300	04662	07000	00036				
	03244	MUL W(WROCOSSITE1)	04663	22030	05052				
	03245	LSH AQ*1	04664	07000	00001				
	03246	STR A*W(WROTEMP1)	04665	15030	05054				

SPURT OUTPUT NO. 210						
PRINTOUT			J00*1/22/65		LOC	
CAROS	L1	IO LABEL	TA STATEMENT		F	JKB Y
	03247		ENT Q*W(ROCOSEL)	046666	10030	05046
	03250		MUL W(ROSTNAZ)	046667	22030	05045
	03251		LSH AQ*320	04670	07000	00040
	03252		STR Q*W(ROFACT12)	04671	14030	05056
	03253		MUL W(RODSINSITE)	04672	22050	05053
	03254		LSH AQ*1	04673	07000	00001
	03255		CP A*	04674	15040	00000
	03256		A00 A*W(ROTEMP1)	04675	20030	05054
	03257		STR A*W(ROXSPRIME)	04676	15030	05057
	03260		ENT Q*W(ROFACT12)	04677	10030	05056
	03261		MUL W(ROCOSSITE1)	04700	22030	05052
	03262		LSH AQ*1	04701	07000	00001
	03263		STR A*W(ROTEMP1)	04702	15030	05054
	03264		ENT Q*W(ROFACT1)	04703	10030	05055
	03265		MUL W(RO5IN SITE)	04704	22030	05053
	03266		LSH AQ*1	04705	07000	00001
	03267		A00 A*W(ROTEMP1)	04706	20030	05054
	03270		STR A*W(ROXSPRIME)	04707	15030	05060
	03271		ENT Q*W(ROSINEL)	04710	10030	05047
	03272		MUL W(RO5INPHEE1)	04711	22030	05012
	03273		LSH AQ*1	04712	07000	00001
	03274		STR A*W(ROTEMP1)	04713	15030	05054
	03275		ENT Q*W(ROCOSEL)	04714	10030	05046
	03276		MUL W(ROCOSSAZ)	04715	22030	05044
	03277		LSH AQ*320	04716	07000	00040
	03300		MUL W(ROCOSPHEE1)	04717	22030	05073
	03301		LSH AQ*1	04720	07000	00001
	03302		A00 A*W(ROTEMP1)	04721	20030	05054
	03303		STR A*W(ROZSPRIME1)	04722	15030	05061
	03304		ENT A*W(ROK21)	04723	11030	05042
	03305		RSH AQ*1	04724	03000	00001
	03306		CP A*	04725	15040	00000
	03307		A00 A*W(ROZSPRIME1)	04726	20030	05061
	03310		STR A*W(ROXSPRIME)	04727	15030	05061
	03311		ENT Q*W(ROXSPRIME1)	04730	10030	05057
	03312		MUL W(ROXSPRIME1)	04731	22030	05057
	03313		STR A*W(ROTEMP1)	04732	15030	05054
	03314		ENT Q*W(ROYSPRIME1)	04733	10030	05060
	03315		MUL W(ROYSPRIME)	04734	22030	05060
	03316		A00 A*W(ROTEMP1)	04735	20030	05054
	03317		ENT Q*W(RO5CALB24)	04736	10030	05062
	03320		RJP SQRT	04737	65000	05074
	03321		JP \$+1	04740	61000	04741
	03322		LSH AQ*310	04741	07000	00037
	03323		ENT A*W(ROZSPRIME)	04742	11030	05061
	03324		RJP ATAN	04743	65000	05257
	03325		LSH AQ*300	04744	07000	00036
	03326		MUL W(RORAOTOREV1)	04745	22030	05070
	03327		LSH AQ*1	04746	07000	00001
	03330		STR A*W(DECOUT1)	04747	15030	05065
	03331		ENT A*W(ROYSPRIME)	04750	11030	05060
	03332		ENT Q*W(ROXSPRIME)	04751	10030	05057
	03333		RJP ATAN	04752	65000	05257

SPURT OUTPUT NO. 210  
JOO•1/22/65

CAROS	L) IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	03334	RSH AQ•1)•APOS	04753	03600	00001		
	03335	A00 A•H(ROTHSIXTY)	04754	20030	05033		
	03336	LSH AQ•300	04755	07000	00036		
	03337	MUL H(RORAOOTOREV)	04756	22030	05070	B27 IN REV	
	03340	LSH AQ•2	04757	07000	00002		
	03341	STR A•H(RAOUT)	04760	15030	05066		
	03342	EXIT	04761	61010	04542		
	03343	ROINIT	04762	11030	05027		
	03344	ENT A•H(ROINITINO)	04763	15040	00000		
	03345	CP A*	04764	15030	05027		
	03346	STR A•H(ROINITINO) ENT Q•W(GEOOETLAT)	04765	10030	53321		
	03347	MUL MICROEGRAO)	04766	22030	05067		
	03350	LSH AQ•7	04767	07000	00007		
	03351	STR A•H(ROPHEE)	04770	15030	05071		
	03352	ENT Q•W(ROTSF1)	04771	10030	05043		
	03353	RJP SIN	04772	65000	05151		
	03354	STR A•W(ROSINPHEE)	04773	15030	05072		
	03355	ENT A•H(ROPHEE)	04774	11030	05071		
	03356	Q•W(ROTSF1)	04775	10030	05043		
	03357	RJP COS	04776	65000	05140		
	03360	STR A•W(ROCOSPHEE)	04777	15030	05073		
	03361	ENT Q•W(YRTRAN1)	05000	10030	63327		
	03362	MUL MICROINPHEE)	05001	22030	05012		
	03363	LSH AQ•1	05002	07000	00001		
	03364	STR A•W(ROK1)	05003	15030	05037		
	03365	ENT Q•W(ZRTRAN)	05004	10030	53330		
	03366	MUL MICROSPHEE)	05005	22030	05013		
	03367	LSH AQ•2	05006	07000	00002		
	03370	A00 A•W(ROK1)	05007	20030	05037		
	03371	STR A•H(ROK1)	05010	15030	05037		
	03372	ENT Q•W(ZRTRAN)	05012	22030	05072		
	03373	MUL MICROINPHEE)	05013	07000	00002		
	03374	LSH AQ•2	05014	15030	05041		
	03375	STR A•H(ROK2)	05015	10030	63327		
	03376	ENT Q•W(YRTRAN)	05016	22030	05073		
	03377	MUL MICROSPHEE)	05017	07000	00001		
	03400	LSH AQ•1	05020	21030	05041		
	03401	SUB A•H(ROK2)	05021	15030	05041		
	03402	STR A•W(ROK2)	05022	10030	53101		
	03403	ENT Q•W(FRAMESIZE1	05023	05000	00001		
	03404	LSH Q•1	05024	22030	05064		
	03405	MUL MICROSEC1	05025	14030	05050		
	03406	STR Q•W(ROTSEC)	05026	61000	04551		
	03407	JP ROSTAR	05027	00000	00000		
	03410	ROINITINO	05030	00020	00000		
	03411	ROWREV	05031	00017	77777		
	03412	ROBITS	05032	07777	77777		
	03413	ROREVMASK	05033	31103	75523		
	03414	ROTHSIXTY	05034	00000	00000		
	03415	ROAZ	05035	00000	00000		
	03416	ROEL	05036	00000	00000		
	03417	RORANGE	05037	00000	00000		
	03420	ROK1					

SPURT OUTPUT NO. 210  
JUN 17/22/65

PRINTOUT			SPURT OUTPUT NO. 210 JUN 17/22/65		
CARD	L1 IO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	03421 RDK11	0 0	05040	00000 00000	
	C3422 ROK2	0 0	05041	00000 00000	
	03423 ROK21	0 0	05042	00000 00000	
	03424 ROTSF	0 260	05043	00000 00032	
	03425 ROCOSAZ	0 0	05044	00000 00000	
	C3426 ROSINAZ	0 0	05045	00000 00000	
	03427 ROCOSEL	0 0	05046	00000 00000	
	03430 ROSINEL	0 0	05047	00000 00000	RAOIAN MEASURE ONE SECS B28
	03431 ROTWSEC	0 46100	05050	00000 46100	
	C3432 ROSITEDR	0 0	05051	00000 00000	
	03433 ROCOSITE	0 0	05052	00000 00000	
	C3434 ROSINSITE	0 0	05053	00000 00000	
	03435 ROTEMP	0 0	05054	00000 00000	
	C3436 ROFACT 1	0 0	05055	00000 00000	
	03437 ROFACT 2	0 0	05056	00000 00000	
	03440 ROXSPRIME	0 0	05057	00000 00000	
	03441 ROYSPRIME	0 0	05060	00000 00000	
	C3442 ROZSPRIME	0 0	05061	00000 00000	
	03443 ROSCALB24	0 240	05062	00000 00030	
	03444 RORAOTOEQ	34513 56032	05063	4513 56032	B23
	03445 ROWONSEC	0 11420	05064	00000 11420	
	C3446 DECOUT	0 0	05065	00000 00000	
	03447 RAOUT	0 0	05066	00000 00000	
	03450 RODEGRAO	0043575063	05067	00435 75063	0EC
	03451 RORAOTOREV	05057 46031	05070	05057 46031	•01745329829
	03452 ROPHEE	0 0	05071	00000 00000	
	03453 ROSINPHEE	0 0	05072	00000 00000	
	03454 ROCOSPHEE	0 0	05073	00000 00000	
	03455 SQRT	JP SQRT	05074	61000 05074	ARBITRARY
	03456	CL Q*	05075	10000 00000	CLEAR Q
	03457	RPT 140	05076	70000 00016	NORMALIZE
	03460	RSH AQ*2*A ZERO L(SQRT)*ANOT	05077	03400 00002	SHIFT UNTIL A 0
	03461	JP 00000	05100	60510 05074	ERROR,BIT 28 OR 29 1
	C3462	AQ*280	05101	07000 00034	NORMALIZE IN A
	03463	STR A*(SQRT+340)*ANOT	05102	15530 05136	STORE NORMALIZED RAOICANO
	03464	JP SORT+290	05103	61000 05131	RAOICANO 0
	03465	RSH A*3	05104	02000 00003	DIVIDE BY B FOR LINEAR APPROX
	03466	COM A*(SQRT+310)*YMORE	05105	04730 05133	SKIP IF BIT 24 0
	03467	A*(SQRT+330)*SKIP	05106	20130 05135	A00 7/8
	03470	15140 00000	05107	15140 00000	CP*ASKIP
	03471	A*(SQRT+340)*SKIP	05110	20130 05136	ARG8+7/8+ARG
	03472	A*(SQRT+320)*SKIP	05111	20130 05134	
	03473	A1*SKIP	05112	02100 00001	A00 9/32
	03474	RSH A*(SQRT+340)	05113	20030 05136	DIVIDE BY 2
	03475	STR A*(SQRT+350)	05114	15030 05137	ARG/8+9/32+ARG
	03476	ENT A*(SQRT+340)	05115	11030 05136	LINEAR APPROX COMPLETE
	03477	RSH AQ*2	05116	03000 00002	ENTER RAOICANO (SCALED AT 26)
	C3500	OIV W(SQRT+350)	05117	23030 05137	SCALE AT 26
	03501	A00 Q*(SQRT+350)	05120	26030 05137	OIV(O (SCALED AT 281)
	03502	RSH Q*1	05121	01000 00001	
	03503	STR Q*(SQRT+350)	05122	14030 05137	

SPURT OUTPUT NO. 210  
JOO 1/22/65

CAROS	LI	IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	03504		ENT A*WISQRT+340)	05123	11030	05136		ENTER RADICAND
	03505		RSH AQ*2	05124	03000	00002		SCALE 2(LARG) AT 26
	03506		0IV WISQRT+350)	05125	23030	05137		0IV(0,RESULT IN Q
	03507		ENT Y+Q*WISQRT+350)	05126	30030	05137	2(RESULT TO A	
	03510		RSH AQ*1+B7*QPOS	05127	03207	00001		
	03511		A00 A*1	05130	20000	00001		ROUND
	03512		ENT B7*LISQRT)	05131	12710	05074		EXIT ADDRESS TO B7
	03513		JP 1+B7	05132	61007	00001		RETURN
	03514		01000 00000	05133	01000	00000		
	03515		04400 00000	05134	04400	00000		9/32 AT 2B
	03516		16000 00000	05135	16000	00000		7/B AT 28
	03517		0 0	05136	00000	00000		TEMPORARY
	03520		0 0	05137	00000	00000		TEMPORARY AV
	03521	COS	JP COS	05140	61000	05140		ARBITRARY
	03522		ENT B7*L(COS)	05141	12710	05140		STORE EXIT
	03523		STR B7*(L(SIN))	05142	16710	05151		
	03524		ENT B7*I	05143	12700	00001		FLAG
	03525		STR B7*(L(SIN+420))	05144	16710	05223		
	03526		JP COS+7*APOS	05145	60600	05147		
	03527		CP A*	05146	15040	00000		
	03528		JP SIN+2*ANOT	05147	60500	05153		
	03529		ENT A*WISIN+600)	05150	11030	05245		COS 10) 1
	03530		JP SIN	05151	61000	05151		ARBITRARY
	03532	SIN	STR BO*LISIN+420)	05152	16010	05223		FLAG
	03533		STR A*WISIN+680)*APOS	05153	15530	05255		
	03534		CP A*	05154	15040	00000		SET POSITIVE
	03535		RPT 290	05155	70000	00035		
	03536		LSH A*1,ANEGLISIN)	05156	06700	00001		SHIFT UNTIL BIT 29 1
	03537		JP LISIN)	05157	61010	05151		SIN(X) 0
	03540		LSH A*290)	05160	06000	00035		SHIFT RIGHT 1
	03541		SUB Q*B7*QPOS	05161	27607	00000		QNEG IMPLIES X EXCEEOS PI/2
	03542							
	03543		JP SIN+340	05162	61000	05213		
	03544		COM Q*300*YMORE	05163	04300	00036		PREVENT ILLEGITIMATE SHIFT
	03545		ENT Q*300	05164	10000	00036		EQ SHIFT 30
	03546		STR Q*LISIN+130)	05165	14010	05166		SOTRE SHIFT COUNT
	03547		RSH A*0	05166	02000	00000		SCALE ARGUMENT AT 28
	03550		COM A*W(SIN+590)*YMORE	05167	04730	05244		COMPARE WITH PI/2
	03551		JP SIN+370	05168	61000	05216		REDUCE TO 1ST QUADRANT
	03552		BSK BO*LISIN+420)	05169	71010	05223		SKIP IF SINE
	03553		SUB A*WISIN+590)*SKIP	05170	21130	05244		PI/2-X TO A
	03554		ENT Q*WISIN+680)*QPOS	05171	10230	05255		CHECK SIGN
	03555		CP A*	05172	15040	00000		A BEARS PROPER SIGN
	03556		STR A*WISIN+680)	05173	15030	05255		STORE SIGNED ARGUMENT
	03557		ENT Q*A	05174	10070	00000		SCALED AT 28
	03560		MUL WISIN+680)	05175	22030	05255		X 2 AT 2B+28 56
	03561		RSH A*290	05176	03000	00035		SQUARED AT 27
	03562		STR Q*WISIN+690)	05177	14030	05256		STORE X 2
	03563		ENT Q*WISIN+640)	05178	10030	05251		C9
	03564		ENT B7*3	05179	12700	30003		LOOP 4 TIMES
	03565		MUL WISIN+690)	05180	22030	05256		SUM POLYNOMIAL
	03566		ENT Q*A	05181	10070	00000		
	03567		ENT Q*WISIN+600+B7)	05182	26037	05245		

SPURT OUTPUT NO. 210  
J00\*I/22/65

CARD	LI TO LABEL	TA STATEMENT	PRINTOUT	SPURT OUTPUT NO. 210	LOC	F JK8 Y	NOTES
	03570	BJP B7*5IN+270		05207	72700	05204	
	03571	MUL W(5IN+6801		05210	22030	05255	SCALE AT 28
	C3572	LSH AQ*2		05211	07000	00002	RETURN
	03573	L(5IN)		05212	61010	05151	CHECK FOR LEGIT SHIFT
	03574	CUM Q*X*/((41*YLESS		05213	04240	17741	
	03575	ENT Q*X77741		05214	10040	77741	-30
	C3576	STR Q*CPL(5IN+130)		05215	14050	05166	
	03577	RSH AQ*2		05216	03000	00002	
	03600	DIV W(5IN+5901		05217	23030	05244	FORM X/(P1/2)
	03601	ENT A*0		05220	11000	00000	CLEAR A
	C3602	LSH AQ*L(5IN+1301		05221	07010	05166	INTEGER TO A, FRACTION IN Q
	03603	LSH AQ*2		05222	07000	00002	
	03604	A00 A*0		05223	20000	00000	O FOR SIN , I FOR COS
	03605	RSH AQ*2		05224	03000	00002	
	03606	ENT LP*W(5IN+6701*ANOT		05225	40530	05254	
	03607	ENT LP*W(5IN+6001*ANOT		05226	40530	05245	
	03610	JP SIN+510		05227	61000	05234	
	C3611	SUB LP*W(5IN+6601		05230	42030	05253	
	03612	ENT Q*W(5IN+6801*QPOS		05231	10230	05255	ACCORO SIGN
	03613	CP A*		05232	15040	00000	
	03614	JP L(5IN1		05233	61010	05151	
	C3615	ENT LP*W(5IN+6501*000		05234	40330	05252	
	03616	JP SIN+560		05235	61000	05241	
	03617	14200 0		05236	14200	00000	CP, Q, QPOS
	03620	SUB Q*W(5IN+660)* SKIP		05237	27130	05253	
	C3621	A00 Q*W(5IN+6601		05240	26030	05253	
	03622	MUL W(5IN+5901		05241	22030	05244	
	03623	LSH AQ*2		05242	07000	00002	SCALE AT 28
	03624	JP SIN+180		05243	61000	05113	RETURN
	03625	31103 75524		05244	31103	75524	P1/2 AT 28
	03626	20000 00000		05245	20000	00000	CI 150 AT 28
	03627	52525 25600		05246	52525	25600	C3-0\$1666 665669E0831
	03630	10420 71732		05247	10420	71732	C5 0.83302519E-2834
	03631	76301 15701		05250	76301	15701	C7 -1.1980741431E-3837
	03632	00127 23405		05251	00127	23405	C9 0.2601886909E-2840
	03633	60000 00000		05252	60000	00000	
	03634	40000 00000		05253	40000	00000	
	C3635	17777 77777		05254	17777	77777	
	03636	0 0		05255	00000	00000	TEMPORARY
	03637	0 0		05256	00000	00000	TEMPORARY
	03640	ATAN		05257	61000	05257	
	C3641	STR A*W(ATAN+6201*AP05		05260	15630	05355	
	03642	CP A*		05261	15040	00000	SET POSITIVE
	03643	STR Q*W(ATAN+620)*QPOS		05262	14230	05356	
	03644	CP Q*		05263	14000	00000	SET POSITIVE
	C3645	STR A-Q*W(ATAN+6401		05264	33030	05357	FLAG BEARS SIGN (\$YS-\$XS\$)
	03646	ENT Y+Q*A		05265	30070	00000	RESTORE A,
	03647	COM Q*X*YLESS		05266	04270	00000	MIN (\$YS,\$XS\$) TO A
	03650	LSH AQ*300		05267	07000	00036	INTERCHANGE A,Q
	C3651	STR Q*W(ATAN+650)		05270	14030	05360	DIVISOR Q MAX (\$YS,\$YS\$)
	03652	RSH AQ*2		05271	03000	00002	SCALE DIVIOENO AT 28
	03653	0IV W(ATAN+6501*NOOF		05272	23230	05360	DIVISOR AT 0

CAROS		L1 TO LABEL	TA STATEMENT	SPURT OUTPUT NO. 210 JOD*1/22/65	LOC	F JK8 Y	NOTES
*	03654		JP L(ATAN)		05273	61010 05257	QUOTIENT AT 28
*	03655		STR Q*W(ATAN+65D)		05274	14030 05360	CLEAR ACCUMULATOR
*	03656		SUB A*A		05275	21070 00000	ROUND TO NEAREST 16TH
*	03657		LSH AQ*6*QPOS		05276	07200 00006	LOAD INDEX REGISTER FOR TABLE
*	03660		ADD A*1		05277	20000 00001	LOOKUP
*	03661		ENT 87*A		05300	12770 00000	Y-YR AT 34
*	03662		STR Q*W(ATAN+66D)		05301	14030 05361	YR AT 4
*	03663		ENT Q*A		05302	10070 00000	Y YR AT 4+28 32
*	03664		MUL W(ATAN+65D)		05303	22030 05360	4 1 AT 2 + 30 32
*	03665		ADD A*4		05304	20000 00004	SCALE AT 1 + Y YR AT 28 1V Q
*	03666		RSH AQ*4		05305	03000 00004	
*	03667		STR Q*W(ATAN+65D)		05306	14030 05360	
*	03670		ENT A*W(ATAN+66D)		05307	11030 05361	Y YR AT 34
*	03671		RSH AQ*80		05310	03000 00010	SCALE DIVENDO AT 34-8+30
*	03672		OIV W(ATAN+65D)		05311	23030 05360	(Y-Y)/(1+Y) YR)
*	03673		STR Q*W(ATAN+65D)		05312	14030 05360	2 AT 28
*	03674		MUL W(ATAN+65D)		05313	22030 05360	2 AT 56
*	03675		OIV W(ATAN+430)		05314	23030 05332	-3 AT 26, Q AT 56-26 30
*	03676		MUL W(ATAN+65D)		05315	22030 05360	-2 3/3 AT 28
*	03677		ADD A*W(ATAN+65D)		05316	0360 05360	Z - Z/3 AT 28
*	03700		ADD A*W(ATAN+45D+871)		05317	20030 05334	ADDITION ENTRY
*	03701		ENT Q*W(ATAN+64D)*QNEG		05320	10330 05357	CHECK SIGN (\$Y\$, \$X\$)
*	03702		SUB A*W(ATAN+44D)*SKIP		05321	21130 05333	COMPLEMENT ANGLE
*	03703		CP A*		05322	05040 00000	SET NEGATIVE
*	03704		RSH A*1		05323	020000 00001	RESULT AT 27
*	03705		ENT Q*W(ATAN+63D)*QPOS		05324	10230 05356	SUPPLEMENT IF X NEGATIVE
*	03706		ADD A*W(ATAN+44D)*SKIP		05325	20130 05333	P1/2 AT 28 P1 AT 27
*	03707		CP A*		05326	15040 00000	SET POSITIVE
*	03710		ENT Q*W(ATAN+62D)*QPOS		05327	10230 05355	ACCORD PROPER SIGN
*	03711		CP A*		05330	15040 00000	
*	03712		JP L(ATAN)		05331	61010 05257	EXIT
*	03713		63774 42363		05332	42363	3.0016901 AT 26
*	03714		31103 75524		05333	31103 75524	P1/2 AT 28 P1 AT 27
*	03715		0 0		05334	00000 00000	ARCTAN(0/0/16) AT 28
*	03716		00777 25336		05335	00777 25336	
*	03717		01772 55652		05336	01772 55652	
*	03720		02756 27552		05337	02756 27552	
*	03721		03726 67277		05340	03726 67277	
*	03722		04661 16716		05341	04661 16716	
*	03723		05573 03120		05342	05573 03120	
*	03724		06462 35661		05343	06462 35661	
*	03725		07326 14701		05344	07326 14701	
*	03726		10145 37512		05345	10145 37512	
*	03727		10740 02726		05346	10740 02726	
*	03730		11505 74016		05347	11505 74016	
*	03731		12227 43722		05350	12227 43722	
*	03732		12725 42304		05351	12725 42304	
*	03733		13400 51742		05352	13400 51742	
*	03734		14031 64134		05353	14031 64134	
*	03735		14441 76652		05354	14441 76652	
*	03736		0 0		05355	00000 00000	TEMPORARIES

CAROS		L1 I0 LABEL	TA STATEMENT	SPURT OUTPUT NO. 210 J00*1/22/65	LOC	F JK8 Y	NOTES
		03737	0 0	05356 00000 00000			
		03740	0 0	05357 00000 00000			
		03741	0 0	05360 00000 00000			
		03742	0 0	05361 00000 00000			
		03743 KEYIN	MEANS C2				
		03744 KEYOUT	MEANS C2				
		03745 NIL	EQUALS O				
		03746	COMMENT ROUTINE				
		03747	COMMENT CALLING				
		03750	COMMENT RJP				
		03751	COMMENT INOEX*Y				
		03752	COMMENT NUMCHAR*COL				
		03753	COMMENT ERROR				
		03754	COMMENT NORMAL				
		03755 PINT	ENTRY RJP	\$ 05362 61000 00000			
		03756	PENTRY JP	05363 65000 06243			
		03757	PINTERR ENT A*(W(B6))	05364 61000 05432			
		03760	STR A*WI INTEGER)	05365 11036 00000			
		03761	RJP BINOECINT	05366 15030 0171			
		03762	RJP SUPZRO	05367 65000 06664	CONVERT TO DECIMAL		
		03763	U-TAG I0INTEGER*2	05370 65000 07014	SUPPRESS LEAVING ZEROS		
		03764	RJP PLAYUP	05371 07176 00002			
		03765	U-TAG I0INTEGER*2	05372 65000 05265	COUNT AND STORE SIGNIFICANT		
		03766	RJP A*U11+B71*ANOT	05373 07175 00002	DIGITS		
		03767		05374 11527 30001	EXAMINE NUMBER OF PLACES 1V)		
		03770	JP PINTB SUB A*(WICHARNO)*APOS\$	05375 61000 05406	IF 0 SKIP BUMPING CTR		
		03771		05376 21530 05525	N-CHARNO=NO. OF PRINTABLE DIGI		
		03772	JP PINTERRA		TS IF CHARNO GR73 4, ERROR		
		03773	JP PINTB*AZERO STR A*W1\$+2)	05377 61000 05433			
		03774	RJP PBLANK	05400 60b00 05406			
		03775	O O	05401 15030 05403			
		03776		05402 65000 05621	INSERT V-CHARNO-1 BLANKS		
		03777	JP PINTERR	05403 00000 00000			
		040000	ENT B1•L(PCOLUMN)	05404 61000 05432			
		04001 PINTB	ENT A*W(SIGN)*AZERO	05405 12110 05223			
		04002	ENT A*41	05406 11430 07173			
		04003	STR A•L(PBUF+B1)	05407 11000 00041			
		04004	BSK B1•1290	05410 15011 07274			
		04005	JP \$+2	05411 71100 00201			
		04006	JP PINTERR	05412 61000 05414			
		04007	ENT B6•1	05413 61000 05432			
		04010 PINTC	ENT A•WILAYUPSTOR+B6-1)	05414 12600 00001			
		04011	STR A•LIPBUF+B1)	05415 11036 06321			
		04012	BSK B1•1290	05416 15011 07274			
		04013	JP \$+2	05417 71100 00201			
		04014	JP PINTERR	05420 61000 05422			
		04015	BSK B6•W(CHARNO)	05421 61000 05432			
		04016	JP PINTC	05422 71630 06525			
		04017 PINTEXIT	Y+1•L1PINT	05423 61000 05415			
		04020	RPL Y+1•L1PINT	05424 36010 05362	AJUST EXIT LOCATION		
		04021	RPL Y+1•L(PINT)	05425 36010 05362			
				05426 36010 05362			

CARDS		L1 L0 LABEL	TA STATEMENT	PRINTOUT	SPURT OUTPUT NO. 210 J00•1/22/65	LOC	F JK8 Y	NOTES
		04 022	STR B1•W(PCOLUMN1)		05427	16130	06223	AJUST EXIT LOCATION
		04 023	RJP PRESTORE		05430	65000	06576	NORMAL EXIT
		04 024	EXIT		05431	61010	05362	
		04 025	PINTERR	ENT A•W(PINTERR)•SKIP	05432	11130	05436	
		04 026	PINTERRA	ENT A•W(PINTERR2)	05433	11030	05437	
		04 027	PINTERR	RJP PERRORR	05434	65000	06613	
		04 030	PINTERR1	JP PINTERIT+1	05435	61000	05425	ERROR EXIT
		04 031	PINTERR1	00001 PINT	05436	00001	05362	
		04 032	PINTERR2	00002 PINT	05437	00002	05362	
		04 033		COMMENT ROUTINE	\$			
		04 034		COMMENT OF CALLING				
		04 035		COMMENT RJP				
		04 036		COMMENT INDEX•Y				
		04 037		COMMENT NUMCHAR•COL				
		04 040		COMMENT ERROR				
		04 041		COMMENT NORMAL				
		04 042		ENTRY RJP PENTRY	05440	61000	00000	
		04 043		JP POCTERR	05441	65000	06243	
		04 044		ENT A•W(B61)	05442	61000	05471	PLACE ARG IN INTEGER
		04 045		STR A•W(INTEGER)	05443	11036	00000	
		04 050		RJP BINOCFL0	05444	15030	07171	CONVERT TO FIELDATA
		04 051		RJP PLAYUP	05445	65000	06715	
		04 052		U-TAG I01INTEGER*2	05446	65000	06265	
		04 053		ENT A•U(1+B71*ANOT	05447	67176	00002	
		04 054		ENT A•100	05450	11527	00001	GET N
		04 055		SUB A•100	05451	11000	00012	IF 0 IMPLIES 10
		04 056		CP A•	05452	21000	00012	
		04 057		ENT B7•A	05453	15040	00000	TAKE 10-N
		04 060		ENT A•W(LAYUPSTOR+B71	05454	12770	00000	
		04 061	POCTA	STR A•L(IPBUF+B11)	05455	11037	06322	GET LOWER N DIGITS
		04 062		BSK B1•1290	05456	15011	07274	
		04 063		JP \$+2	05457	71100	00201	
		04 064		JP POCTERR	05460	61000	05462	
		04 065		BSK B7•90	05461	61000	05471	
		04 066		JP POCTA	05462	71700	00011	
		04 067		ENT A•3	05463	61000	05455	
		04 070		RPL A•Y•LIPUNCT1	05464	11000	00003	
		04 071	POCTB	STR B1•W(PCOLUMN1)	05465	24010	05440	
		04 072		RJP PRESTORE	05466	16130	06223	
		04 073		EXIT	05467	65000	06576	
		04 074		ENT A•W(POCTERR1)	05470	61010	05440	
		04 075	POCTERR	RJP PERRORR	05471	11030	05475	
		04 076		ENT A•2	05472	65000	06613	
		04 077		JP POCTB	05473	11000	00002	
		04 100		00001 POCT	05474	61000	05465	
		04 101	POCTERR1	COMMENT ROUTINE	05475	00001	05440	
		04 102		COMMENT PLACE				
		04 103						
		04 104						

SPURT OUTPUT NO. 210				JDO#1/22/65			
CAROS	LI LO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
.	04105	COMMENT CALLING	05476	61000	00000		
.	04106	COMMENT RJP	05477	65000	09243		
.	04107	COMMENT INOEXY	05500	61000	05550		
C4110	.	COMMENT BINP*COL	05501	16620	05507	STORE ARGUMENT ADDRESS	
.	04111	COMMENT NUMCHARINT*	05502	11027	00001	GET GAMMA	
.	04112	COMMENT ERROR	05503	15010	05507		
.	04113	COMMENT NORMAL	05504	11017	00002	GET BETA	
C4114	PFIX	ENTRY RJP PENTRY	05505	15030	01710		
.	04115	JP PFIXERR	05506	65000	05756	CONVERT NUMBER AND ZERO SUPPRESS	
.	04116	STR B6*U(PFIXB1	05507	00000		SS	
.	04117	ENT A*U(1+B71	05510	65000	09265	SPREAD OUT SUPPRESSED INTEGER	
C4120	.	STR A*L(PFIXB1	05511	07176	00002	GET NO OF INTEGERS TO PRINT	
.	04121	ENT A*L(2+B71	05512	11027	00002		
.	04122	STR A*W(BETA1	05513	21630	06525	SUBTRACT NO OF SIGNIFICANT	
.	04123	RJP COFFIX	05514	61000	05551	0 DIGITS, 1 IF GRTR, ERROR	
C4124	.	0	05515	60400	05523		
.	04125	PFIXB	05516	15010	05520	INSERT N-CHARNO-1 BLANKS	
.	04126	0 RJP PLAYUP	05517	65000	05621		
C4127	.	U-TAG I0INTEGER*2	05518	00000			
.	04130	ENT A*U(2+B71	05519	00000			
.	04131	SUB A*W(CHARNO1*AP05	05520	00000			
C4132	.	JP PFIXERR	05521	61000	05550		
.	04133	JP PFIXC*AZERO	05522	12110	06223		
.	04134	STR A*L(\$+21	05523	11430	01713		
.	04135	RJP PBLANK	05524	11000	00041		
C4136	.	0	05525	15011	01274		
.	04137	JP PFIXERR	05526	71100	00201		
04140	PFIXC	ENT B1*L(IPCOLUMN1	05527	61000	05531		
.	04141	ENT A*W(SIGN)*AZERO	05528	61000	05550		
C4142	.	ENT A*41	05529	12600	00001		
.	04143	STR A*L(PBUF+B11	05530	11036	06121		
C4144	.	BSK B1*I290	05531	15011	01274		
.	04145	JP \$+2	05532	71100	00201		
C4146	.	JP PFIXERR	05533	61000	05531		
.	04147	ENT B6*I	05534	71100	00201		
C4150	PFIKO	ENT A*W(LAYUPSTOR+B6-I1	05535	61000	05537		
.	04151	STR A*L(PBUF+B11	05536	61000	05550		
C4152	.	BSK B1*I290	05537	71630	06525		
.	04153	JP \$+2	05538	15011	01274		
C4154	.	JP PFIXERR	05539	61000	05550		
.	04155	ENT BSK B6*W(CHARNO1	05540	61000	05552		
C4156	.	JP PFIKO	05541	65000	06526		
.	04157	RJP PFRACSTOR	05542	61000	05550		
C4160	.	JP PFIXERR	05543	11000	00004	NORMAL EXIT PATH	
.	04161	ENT A*4	05544	24010	05476	COMMON EXIT PATH	
C4162	.	RPL A+Y*L(PFIXI)	05545	16130	06223		
.	04163	STR B1*W(IPCOLUMN1	05546	65000	05576		
C4164	.	RJP PRESTORE	05547	61010	05476		
.	04165	EXIT	05550	11130	05555		
C4166	PFIXERR	ENT A*W(PFIXERR1)*SKIP	05551	11030	05556		
.	04167	ENT A*W(PFIXERR2)					

SPURT OUTPUT NO. 210  
J00•1/22/65

CAROS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	04170			RJP PERRR	05552	65000	06613		
	04171			ENT A•3	05553	11000	00003		
	04172			JP PFIXF+1	05554	61000	05444	ERROR EXIT	
	04173		PFIXERR1	00001	PFIX	05555	00001	05476	
	04174		PFIXERR2	00002	PFIX	05556	00002	05476	
	04175			COMMENT ROUTINE					\$ TO PRINT FIELD DATA DATA
	04176			COMMENT CALLING					SEQUENCE
	04177			COMMENT RJP					PFO
	04200			COMMENT INOEX•Y					
	04201			COMMENT NUMCHAR•COL					
	04202			COMMENT ERROR					
	04203			COMMENT NORMAL					
	04204			ENTRY					
	04205		PFO	RJP PENTRY	05557	61000	00000		
	04206			JP PF0ERR	05560	65000	06243		
	04207			STR B6•L(PFOA)	05561	61000	05614		
	04210			ENT A•U(1+B7)*ANOT	05562	16610	05571	STORE ADDRESS OF STRING	
	04211			ENT A•5	05563	11527	00001	GET NO. OF CHARACTERS	
	04212			ENT A•L(PFOB)	05564	11000	00005	IF ZERO, EQUALS 5	
	04213			STR B7•1	05565	15010	05600		
	04214			ENT B6•0	05566	12700	00001		
	04215			ENT B5•0	05567	12600	00000		
	04216			ENT Q•W(00+BS)	05570	12500	00000		
	04217		PFOA	CL A•	05571	10035	00000	GET NEXT FO WJRO	
	04220			LSH AQ•6	05572	11000	00000		
	04221			STR A•L(PBUF+B1)	05573	07000	00006		
	04222			BSK B1•1290	05574	15011	07274		
	04223			JP \$+2	05575	71100	00201		
	04224			JP PF0ERR	05576	61000	05600		
	04225			BSK B7•00	05577	61000	05614		
	04226		PFOB	JP \$+2	05600	71700	00000		
	04227			JP PF0C	05601	61000	05603		
	04230			BSK B6•4	05602	61000	05607		
	04231			JP PF0A+1	05603	71600	00004		
	04232			BSK B5•-1	05604	61000	05572		
	04233			JP PF0A	05605	71500	77776		
	04234			ENT A•3	05606	61000	05571		
	04235		PFOC	RPL A+Y•L(PFO)	05607	11000	00003		
	04236			STR B1•W(IPCOLUMN)	05610	24010	05557		
	04237			RJP PRESTORE	05611	16130	06223		
	04240			EXIT	05612	65000	06576		
	04241		PFOERR1	ENT A•W(PFOERR1)	05613	61010	05557		
	04242			RJP PERRR	05614	11030	05620		
	04243			ENT A•2	05615	65000	36613		
	04244			JP PF0C+1	05616	11000	00002		
	04245			00001 PFO	05617	61000	05610		
	04246			COMMENT ROUTINE	05620	00001	05557		
	04247			COMMENT THE					\$ TO BLANK AN AREA OF
	04250			COMMENT CALLING					OUTPUT BUFFER
	04251			COMMENT RJP					SEQUENCE
	04252			COMMENT COL•NUMCOLS					PBLANK
	04253								
	04254								

CAROS		L1 ID LABEL	T A STATEMENT	SPURT OUTPUT NO. 210 J00*1/22/65	LOC	F JKB Y	NOTES
•	•	04255	COMMENT	61000 00000	56621	61000 00000	\$
•	•	04256	COMMENT NORMAL	056622 15030 05666	05622	15030 05666	
•	•	04257	PBLANK	14030 05667	05623	14030 05667	SAVE ALL REGISTERS
•	•	04260	STR A*W(PBLANK5)	05624	16710 05655		
•	•	04261	STR Q*W(PBLANK6)	05625	16110 05656		
•	•	04262	STR B7*L(PBLANK2+1)	05626	12710 05621		PARAMETER LOCATION
•	•	04263	STR B1*L(PBLANK2+2)	05627	11527 00000		
•	•	04264	ENT A*U(B7)*ANOT	05630	61000 05635		COL IS ZERO
•	•	C4265	PBLANK05	05631	15010 05633		BUILD PCOLR CALLING SEQUENCE
•	•	04266	STR A*L(\$+2)				
•	•	04267					
•	•	C4270	RJP PCOLR	05632	65000 05670		
•	•	04271	00	05633	00000 00000		
•	•	04272	PBLANK3	05634	61000 05662		
•	•	04273	ENT A*L(B7)*AZERO	05635	11417 00000		
•	•	04274	JP \$+3	05636	61000 05641		
•	•	04275	ENT A*12B0	05637	11000 00200		
•	•	04276	SUB A*W(IPCOLUMN)	05640	21030 06223		
•	•	04277	ENT B7*A	05641	12770 00000		NUMBER OF COLUMNS TO BLANK
•	•	C4300	BJP B7*\$+1	05642	72700 05643		
•	•	04301	ENT B1*L(IPCOLUMN)	05643	12110 06223		
•	•	04302	CL A*	05644	11000 00000		
•	•	C4303	ENT A*L(PBUF+B1)	05645	15011 07274		
•	•	04304	BSK B1*1290	05646	71100 00201		
•	•	04305	JP \$+2	05647	61000 05651		
•	•	04306	JP PBLANK3	05650	61000 05662		
•	•	04307	B7*PBLANK1	05651	72700 05644		
•	•	C4310	STR B1*W(IPCOLUMN)	05652	16130 06223		
•	•	04311	RPL Y+1*L(PBLANK)	05653	36010 05621		PREPARE EXIT
•	•	04312	PBLANK2	05654	36010 05621		
•	•	04313	ENT B7*00	05655	12700 00000		
•	•	C4314	ENT B1*00	05656	12100 00000		
•	•	04315	ENT A*W(PBLANK5)	05657	11030 05666		
•	•	04316	ENT Q*W(PBLANK6)	05660	10030 05667		
•	•	04317	EXIT	05661	61010 05621		
•	•	04320	ENT A*W(PBLANK4)	05662	11030 05665		ERROR ROUTINE PARAMETER
•	•	04321	RJP PERROR	05663	65000 06613		
•	•	04322	JP PBLANK2	05664	61000 05654		
•	•	04323	00001 PBLANK	05665	00001 05621		
•	•	C4324	C4324 PBLANK5	0	05666 00000		
•	•	04325	PBLANK6	0	05667 00000		
•	•	04326	COMMENT				
•	•	04327	ROUTINE				
•	•	C4330	COMMENT CALLING				
•	•	04331	COMMENT RJP				
•	•	C4332	COMMENT INOEX*COL				
•	•	04333	COMMENT ERROR				
•	•	C4334	COMMENT NORMAL				
•	•	04335	PCOLR	05670	61000 00000		\$
•	•	04336	STR A*W(IPCOLRG)	05671	15030 05716		
•	•	04337	STR B7*L(PCOLR)	05672	16710 05677		
•	•	C4340	ENT B7*L(PCOLR)	05673	12710 05670		LOC OF PARAMETERS

SPURT OUTPUT NO. 210  
JOD•1/22/65

CARDS	L) ID	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	04341		ENT A•W(B7)	05674	11037	00000		T, Y TO A
	04342		SEL SET•W(PCOLR4)	05675	00030	05714		OF IN AN ENT A INST
	04343		STR A•W(\$+2)	05676	15030	05700		
	04344	PCOLR1	ENT B7•0	05677	12700	00000		
	04345		O 0	05700	00000	00000		ENT A WITH COUNTER VALUE
	04346		COM A•1290•YMORE	04700	04700	0201		TEST FOR LINE OVERFLOW
	04347		JP PCOLR3	05701	61000	05710		TOO BIG, ERROR
	04350		STR A•W(PCOLUMN)	05703	15030	06223		SET COUNTER
	04351		RPL Y••L(PCOLR)	05704	36010	05670		
	04352	PCOLR2	RPL Y••L(PCOLR)	05705	36010	05670		
	04353		ENT A•W(PCOLRG)	05706	11030	05716		
	04354		EXIT	05707	61010	05670		
	04355	PCOLR3	ENT A•W(PCOLRS)	05710	11030	05715		PARAMETER WORD FOR ERROR ROUTI
	04356		RJP PERROR	05711	65000	06613		
	04357		CL W(PCOLUMN)	05712	16030	06223		
	04360		JP PCOLR2	05713	61000	05705		
	04361	PCOLR4	ENT A•0	05714	11000	00000		
	04362	PCOLR5	00001 PCOLR	05715	00001	05670		
	04363	PCOLRG	O O	05716	00000	00000	\$	
	04364		COMMENT					TO INCREMENT AND TEST
	04365		ROUTINE					COLUMN COUNTER
	04366		COMMENT THE					SEQUENCE
	04367		COMMENT CALLING					PCOLIN
	04370		COMMENT RJP					
	04371		COMMENT 1NOEX•NUMCOLS					
	04372		COMMENT ERROR					
	04373		COMMENT NORMAL					
	04374	PCOLIN	ENTRY A•W(PCOLINS)	05717	61000	00000		
	04375		STR B7•L(PCOLIN)	05720	15030	05746		
	04376		ENT B7•L(PCOLIN)	05721	16710	05726		
	04377		ENT A•W(B7)	05722	12710	05717		LOC OF PARAMETERS
	04400		SEL SET•W(PCOLIN3)	05723	11037	00000		
	04401		STR A•W(\$+2)	05724	50030	05744		
	04402		ENT B7•0	05725	15030	05727		
	04403	PCOLIN1	O 0	05726	12700	00000		
	04404		A00 A•W(PCOLUMN)	05727	00000	00000		VALUE OF INCREMENT TO A
	04405		COM A•1290•YMORE	05730	20030	06223		
	04406		JP PCOLIN2	05731	04700	0201		TEST FOR LINE OVERFLOW
	04407		STR A•W(PCOLUMN)	05732	61000	05740		TOO MANY CHARACTERS, ERROR
	04410		RPL Y••L(PCOLIN)	05733	15030	06223		OK, STORE NEW COLUMN NUMBER
	04411		RPL Y••L(PCOLIN)	05734	36010	05717		PREPARE EXIT
	04412	PCOLIN1A	ENT A•W(PCOLIN5)	05735	36010	05717		
	04413		EXIT	05736	11030	05746		
	04414		ENT A•W(PCOL(N4))	05737	61010	05717		
	04415	PCOLIN2	ENT A•W(PCOL(N4))	05740	11030	05745		PARAMETER WORD FOR ERROR ROUTI
	04416		RJP PERROR	05741	65000	06613		
	04417		CL W(PCOLUMN)	05742	16030	06223		
	04420		JP PCOLIN1A	05743	61000	05735		ERROR EXIT
	04421	PCOLIN3	ENT A•0	05744	11000	00000		
	04422	PCOLIN4	00001 PCOLIN	05745	00001	05717		
	04423	PCOLINS	O O	05746	00000	00000		

SPURT OUTPUT NO. 210  
J00\*1/22/76

CAROS	L1 TO LABEL	TA STATEMENT	LOC	F JK8 Y	NOTES
	04424	COMMENT	ROUTINE	\$	TO DEFINE THE OUTPUT
	04425	COMMENT	BUFFER		ORIGIN
	04426	COMMENT	CALLING		SEQUENCE
	04427	COMMENT	RJP		PIMAGE
	04430	COMMENT	INOEKEY		
	04431	COMMENT	ERROR		
	04432	COMMENT	NORMAL		
	04433	PIMAGE	ENTRY	\$	
	04434		STR A*W(PIMAGE3)	05747	61000 00000
	04435		STR 87*L(PIMAGE1)	05750	15030 05772
	04436		ENT 87*L(PIMAGE1)	05751	16710 05766
	04437		ENT A*W(87)	05752	12710 05747
	04440		SET SETW(PIMAGE2)	05753	11037 00000
	04441		SEL SETW(PIMAGE2)	05754	50030 05771
	04442		STR A*W(\$+1)	05755	15030 05756
	04443		00 00	05756	00000 00000
	04444		STR A*L(\$+2)	05757	15010 05761
	04445		ENT 87*1270	05760	12700 00177
	04446		ENT A*W(00+B7)	05761	11037 00000
	04447		STR A*W(PBUF+\$+B7)	05762	15037 07275
	04450		BJP 87*\$-2	05763	72700 05761
	04451		RPL Y+1*L(PIMAGE)	05764	36010 05747
	04452		RPL Y+1*L(PIMAGE)	05765	36010 05747
	04453	PIMAGE1	ENT 87*00	05766	12700 00000
	04454		ENT A*W(PIMAGE3)	05767	11030 05772
	04455		EXIT	05770	61010 05747
	04456	PIMAGE2	ENT A*80	05771	11000 00000
	04457	PIMAGE3	O O	05772	00000 00000
	04460	COMMENT	COMMENT		\$ TO SET TOP AND BOTTOM MARGINS
	04461	COMMENT	ROUTINE		OF
					PAGE.
					SEQUENCE
					PFORM
	04462	COMMENT	PRINTED		
	04463	COMMENT	CALLING		
	04464	COMMENT	RJP		
	04465	COMMENT	LINESTOP*LINESEBOT		
	04466	COMMENT	ERROR		
	04467	COMMENT	NORMAL		
	04470	PFORM	ENTRY	05773	61000 00000
	04471		STR A*W(PFORASTOR)	05774	15030 06056
	04472		STR 87*L(PFORBSTR)	05775	16710 06054
	04473		ENT 87*L(PFORM)	05776	12710 05773
	04474		ENT A*U(87)	05777	11027 00000
	04475		A00 A*1	06000	GET NO OF BLANK LINES AT TOP
	04476		STR A*W(TOPLINE)	06001	20000 00001
	04477		ENT A*L(B7)	06002	FORM TOP LINE NO.
	04500		STR A*W(BOTMARG)	06003	GET NO OF BLANKS AT BOTTOM
	04501		A00 A*W(TOPLINE)	06004	SAVE
	04502		COM A*PAGE SIZE + *YMORE	06005	20030 06226
	04503		JP PFORMERR	06006	04700 00103
	04504		ENT A*PAGE SIZE	06007	CHECK FOR MARGINS EXCEEDING
	04505		SUB A*W(BOTMARG)	06010	61000 05052
	04506		STR A*W(BOTLINE)	06011	PAGE SIZE - ERROR
	04507		ENT A*W(PEXTINT)	06012	11030 06222
					FORM BOTTOM LINE NO.
					SET UP PRINT INTERRUPT

SPURT OUTPUT NO. 210  
J00•1/22/65

CAROS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
*			04510	STR A•W(23)	06013	15030	00023		
*			04511	ENT A•1	06014	11000	00001		
*			04512	STR A•W(STATUS)	06015	15030	06237	INITIALIZE STATUS	
*			04513	ENT A•W(LINCNT1)	06016	11030	06230		
*			04514	SUB A•W(TOPLINE)•ANOT	06017	21530	06226	TEST FOR PAGE TOPPEO	
*			04515	JP PFORMERR•1	06020	61000	06051		
*			04516	ENT A•PAGE SIZE	06021	11000	00102	COMPUTE PAGESIZE-LINCNT	
*			04517	SUB A•W(LINCNT1)	06022	21030	06230		
*			04520	A00 A•W(TOPLINE)	06023	06020	06226	PLUS TOPLINE=NO OF LINES	
*			04521	COM A•PAGE SIZE•YES\$	06024	04600	00102	MODULE PAGE SIZE	
*			04522	JP \$•3	06025	61000	06030		
*			04523	SUB A•PAGE SIZE	06026	21000	00102		
*			04524	JP \$-3	06027	61000	06024		
*			04525	COM A•77•YMORE	06030	04700	00077		
*			04526	RJP PScriBSS	06031	65000	06163		
*			04527	LSH A•180	06032	06000	00022		
*			04530	SEL SET•W(SPRINTWD1)	06033	50030	06231	CONSTRUCT PRINT ORDER	
*			04531	STR A•W(PSCRIBCI)	06034	15030	06232		
*			04532	ENT A•W(TOPLINE)	06035	11030	06226		
*			04533	STR A•W(LINCNT1)	06036	15030	06230	RESET LINCNT TO TOP OF PAGE	
*			04534	ENT A•1	06037	11000	00001	RESET PCOLUMN	
*			04535	STR A•W(PCOLUMN)	06040	15030	06223		
*			04536	NO-OP	06041	12000	00000		
*			04537	ENT A•W(STATUS)•ANOT	06042	11530	06237	WAIT FOR COMPLETION	
*			04540	JP \$-2	06043	61000	06041		
*			04541	SUB A•1•AZERO	06044	21400	00001	CHECK OK STATUS	
*			04542	JP PFORMERR•STOP	06045	61400	06052		
*			04543	CL W(STATUS)	06046	16030	06237	CLEAR STATUS WORD	
*			04544	EX-FCT PRINTC•W(PSCRIBCI)	06047	13170	06232	ISSUE WITH NO BUFFER	
*			04545	OUT PRINTC•W(PSCRIBSSB1)	06050	74170	06241		
*			04546	RPL Y+1•L(PFORMI)	06051	36010	05773		
*			04547	RPL Y+1•L(PFORMI)	06052	36010	05773		
*			04550	ENT A•W(PFORASTOR1)	06053	11030	06056		
*			04551	PFORBSTR	06054	12700	00000		
*			04552	EXIT B7•0	06055	61010	05773		
*			04553	PFORASTOR 0 0	06056	00000	00000		
*			04554	COMMENT COMMENT ROUTINE				\$ TO PRINT ONE LINE AFTER SPACIN	
*			04555	COMMENT T0				G OR GOING	
*			04556					TOP OF NEXT PAGE. IMAGE ADDRES	
*			04557	COMMENT CALLING				SEQUENCE	
*			04560	COMMENT RJP				PSCRIB	
*			04561	COMMENT EJECT•SPACING					
*			04562	COMMENT ERROR					
*			04563	COMMENT NORMAL					
*			04564	PR1NTC MEANS C3					
*			04565	ENTR PSAVE	06057	61000	00000		
*			04566	ENT A•W(PEXTINT)	06060	65000	06563		
*			04567	STR A•W(23)	06061	11030	06222	SET UP PRINT INTERRUPT	
*			04570	ENT B7•L(PSCRIBI)	06062	15030	00023		
*			04571	ENT A•U(B7•1•ANOT	06063	12710	06057	GET PARAMETER WO ADDRESS	
*			04572		06064	11527	00000	TEST FOR PAGE TOPPING	

..... PRINTOUT SPUR T OUTPUT NO. 210  
JDD\* 1/22/65

CARDS	L1	ID LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	04573		JP PRSCRIBC	06065	61000	06147		NO
•	04574	PSCRIBA	ENT A*W(BOTLINE1	06066	11030	06227	YES- COMPTE LINES TO SKIP	
•	04575		SUB A*W(LINCNT1)	06067	21030	06230	FOR TOP OF NEXT PAGE	
•	04576		ADD A*W(BOTMARGI	06070	20030	06225		
•	04577		ADD A*W(TOPLINE1	06071	20030	06226		
•	04600		COM A*77*YMORE	06072	04700	00077		
•	04601	PSCRIBSS	RJP PSCRIBSS	06073	65000	06163		
•	04602	PSCRIBB	LSH A*1BD	06074	06000	00022		
•	04603		SEL SET*W(PRINTWD1)	06075	50030	06231	INSERT IN PRINT FUNCTION WO	
	04604		STR A*W(PSCRIBC1	06076	15030	06232		
•	04605		ENT A*W(TOPLINE1	06077	11030	06226	RESET LINE COUNT TO TOLINE	
•	04606		STR A*W(LINCNT1)	06100	15030	06230		
•	04607	PSCRIBF	ENT B7*0	06101	12700	00000	CREATE PACKED PRINT BUFFER	
•	04610	PSCRIBH	ENT B5*LIPSCRIBD1	06102	12510	06233		
•	04611		ENT B6*4	06103	12600	00004		
•	04612		ENT A*0	06104	11000	00000		
•	04613		B5K B7*129D	06105	71700	00201		
•	04614		ENT Q*W(PBUF+B71*SKIP	06106	0137	07274	PACK CHARS FROM PBUF	
•	04615		ENT J PSCRIBJ	06107	61000	06116		
•	04616		LSH Q*24D	06110	05000	00030		
•	04617		LSH AQ*6	06111	07000	00006		
•	04620		B5P B6*PSCRIBH+2	06112	72600	06105		
•	04621		STR A*W(B51	06113	15035	00000	STORE INTO PACKED BUFFER	
•	04622		B5*-1	06114	71500	7776		
•	04623	PSCRIBJ	JP PSCRIBH	06115	61000	06103		
•	04624		LSH A*6	06116	06000	00006	LEFT JUSTIFY A REG	
•	04625		BJP B6*-1	06117	72600	06116		
•	04626		STR A*W(B51	06120	15035	00000		
•	04627	PSCRIBI	ENT A*1	06121	11000	00001		
•	04630		STR A*W(COLUMN1	06122	15030	06223	RESET COLUMN COUNTER TO 1	
•	04631	PSCRIBSW	ENT BO*PSCRBUF	06123	12000	26134	SWITCH TO SKIP PRINTING	
•	04632		NO-OP	06124	12000	00000		
•	04633		ENT A*W(STATUS1*ANOT	06125	11530	06237	LOOP TILL PRINT COMPLETE	
•	04634		JP \$-2	06126	61000	06124		
•	04635		SUB A*1*AZERO	06127	21400	00001	TEST FOR NORMAL COMPLETION	
•	04636		JP PSCRIBERR	06130	61000	06162	NO	
•	04637		CL W STATUS1	06131	16030	06237		
•	04640		EX-FCT PRINTC*W(PSCRIBC1	06132	06132	13170	06232	
•	04641		OUT PRINTC*W(PSCRIBD1	06133	74170	06233		
•	04642	PSCRBUF	ENT Q*W(LINCNT6X1)	06134	10030	06224		
•	04643		ENT A*L{PSCRIBD1	06135	11010	06233	EXAMINE LAST BUFFER	
•	04644		STR A*U(IPACKBUFF1	06136	15020	07205		
•	04645		COM A*PREGLON+2*YMORE	06137	04700	37210		
•	04646		RPL Y-Q*W(PSCRIBD1*SKIP	06140	35130	06233		
•	04647		RPL Y+Q*W(PSCRIBD1	06141	34030	06233		
•	04650		STR A*LIPACKBUFF1	06142	15010	07205		
•	04651		RPL Y+1*L(PSCRIB1	06143	36010	06057	YES- ADJUST EXIT LINE	
•	04652	PSCRIBG	RPL Y+1*L(PSCRIB1	06144	36010	06057		
•	04653		PRESTORE	06145	65000	05576		
•	04654		EXIT ENT A*W(BOTLINE1	06146	61010	06057		
•	04655	PRSCRIBC	A*W(LINCNT1	06147	11030	06227	IF BOTLINE-LINCNT GREATER	
•	04656		SUB THAN NO OF LINES TO SHIP, FIVE	06150	21030	06230		

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JDD\*1/22/65

CARDS	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	04657			COM A*L(87)*YLESS	06151	04617	00000		ELSE GO TO TOP PAGE
	04660			JP PSCRIBA+1	06152	61000	06070		
	04661			ENT A*L(87)	06153	11017	00000		BUMP LINE COUNTER
	04662			RPL A+Y*W(LINCNT)	06154	24030	06230		
	04663			ENT A*L(87)	06155	11017	00000		GET NO OF SPACES
	04664			LSH A*18D	06156	06000	00022		
	04665			SET*W(PRINTWD)	06157	50030	06231		INSERT IN PRINT FUNCTION #0
	04666			STR A*W(PSCRIBC)	06160	15030	06232		
	04667			JP PSCRIBF	06161	61000	06101		GO TO PRINT OUT
	04670			JP PSCRIBG*STOP	06162	61400	06144		
	04671			ENTRY	06163	61000	00000		
	04672			SUB A*77	06164	21000	00077		
	04673			COM A*77*VMORE	06165	04700	00077		
	04674			JP \$-2	06166	61000	06164		
	04675			ENT B7*A	06167	12770	00000		
	04676			NO-OP	06170	12000	00000		
	04677			ENT A*W(STATUS)*ANOT	06171	11530	06237		
	04700			JP \$-2	06172	61000	06170		
	04701			SUB A*1*AZERO	06173	21000	00001		
	04702			JP PSCRIBERR	06174	61000	06162		
	04703			CL W(STATUS)	06175	16030	06237		
	04704			EX-FCT PRINTC*W(PSCRIBSSA)	06176	13170	06240		
	04705			OUT PRINTC*W(PSCRIBSSB)	06177	74170	06241		
	04706			ENT A*87	06200	11007	00000		
	04707			EXIT	06202	61010	06163		
	04710			PSCRINT	06203	61000	00000		PRINT INTERRUPT ROUTINE
	04711			STR A*W(PSCRATOR)	06204	15030	06220		
	04712			STR Q*W(PSCRQSTOR)	06205	17170	06236		
	04713			PRINTC*W(STAT STOR)	06206	10030	06236		SAVE STATUS WORD
	04714			ENT Q*W(STAT STOR)	06207	11000	00000		
	04715			CL A*	06210	07000	00004		
	04716			LSH AQ*4	06211	21500	00010		TEST BOTTOM 4 BITS
	04717			SUB A*10*ANOT	06212	11000	00001		
	04720			ENT A*I*SKIP	06213	11000	00002		OTHERWISE, ENTER ERROR CODE
	04721			ENT A*2	06214	15030	06237		INTO STATUS WORD
	04722			STR A*W(STATUS)	06215	11030	06220		
	04723			ENT A*W(PSCRATOR)	06216	10030	06221		
	04724			ENT Q*W(PSCRQSTOR)	06217	60110	06202		EXIT
	04725			RILJP L(PSCRINT)	06220	00000	00000		
	04726			PSCRATOR 0 0	06221	00000	00000		
	04727			PSCRQSTOR 0 0	06222	65000	06202		INSTR. FOR PRINT INTERRUPT
	04730			PEXTINT RJP PSCRINT	06223	00000	00001		
	04731			PCOLUMN 0 I	06224	00033	00033		
	04732			TWENTYSIXS 00033 00033	06225	00000	00004		
	04733			BOTMARG 0 4	06226	00000	00007		
	04734			TOPLINE 0 7	06227	00000	00076		
	04735			BOTLINE 0 620	06230	00000	00001		
	04736			LINCNT 0 1	06231	12000	00001		
	04737			PRINTWO 12000 00001	06232	00000	00000		
	04740			PSCRIBC 0 0	06233	00000	00000		
	04741			U-TAG PSCRIBO	07240	07207			

SPURT OUTPUT NO. 210  
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CAROS	L1 ID	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	04742	PSCASTOR	0 0	06234	00000	00000		
	04743	PSCQSTOR	0 0	06235	00000	00000		
	04744	STATSTOR	0 0	06236	00000	00000		
	04745	STATUS	0 1	06237	00000	00000		
	04746	PSCRIBSSA	12770 00001	06240	12770	00001		
	04747	PSCRIBSSB	U-TAG 77777	06241	06242	06242		
	04750	PSCRIBSSC	EQUALS 660	06242	77777	77777		
	04751	PAGESIZE	COMMENT					
	04752	COMMENT	SUBROUTINE					
	04753	COMMENT	ENTRY					
	04754	COMMENT	COMMENT OF					
	04755	C4756 PENTRY	ENTRY	06243	61000	00000		
	04757	RJP PSAVE	ENT B7*L(PENTRY)	06244	65000	06563		
	04760	ENT B7*L(B7-21)	ENT A*W(B7)	06245	12710	06243		
	04761	SETW(GETAO0)	SETW(GETAO0)	06246	12717	77775	GET ADDRESS OF MAIN CALLER	
	04762	STR A*W(PENTA+1)	STR A*W(B7)	06247	11037	00000		
	04763	ENT A*L(1+B7)*ANOT	SETW(GETAO0)	06250	50030	06264		
	04764	JP PENTA	STR A*W(B7)	06251	15030	06261		
	04765	JP PENTA	ENT A*L(1+B7)*ANOT	06252	11517	00001		
	04766	STR A*W(\$+21)	JP PENTA	06253	61000	05260		
	04767	RJP PCOLR	STR A*W(\$+21)	06254	15030	06256		
	04770	0 0	RJP PCOLR	06255	65000	05670		
	04771	JP \$+2	0 0	06256	00000	00000		
	04772	RPL Y+1*L(PENTRY)	JP \$+2	06257	61000	05261		
	04773	PENTA	RPL Y+1*L(PENTRY)	06258	36010	05243		
	04774	0 0	PENTA	06261	00000	00000		
	04775	ENT B1*L(IPCOLUMN)	0 0	06262	12110	06223		
	04776	EXIT	ENT B1*L(IPCOLUMN)	06263	61010	06243		
	04777	ENT B6*0	EXIT	06264	12600	00000		
	05000	PLAYUP	ENT B6*0	06265	61000	00000		
	05001	STR B7*L(PLAYBSTORE)	ENT B6*0	06266	16710	06315	SAVE B-REGS	
	05002	STR B6*L(PLAYBSTORE+11)	STR B6*L(PLAYBSTORE+11)	06267	16610	06316		
	05003	STR B5*L(PLAYBSTORE+21)	STR B5*L(PLAYBSTORE+21)	06268	16510	06317		
	05004	CLEAR 1300*LAYUPSTOR	CLEAR 1300*LAYUPSTOR	06271	70100	00202		
	05005	ENT B7*L(PLAYUP)	ENT B7*L(PLAYUP)	06273	12710	06265		
	05006	ENT B6*U(B7)	ENT B6*U(B7)	06274	12527	00000		
	05007	STR B6*L(PLAYUPA)	ENT B7*L(B7)	06275	12717	00000		
	05010	ENT B6*0	STR B6*L(PLAYUPA)	06276	16610	06301		
	C5011	ENT B5*0	ENT B6*0	06277	12600	00000		
	05012	ENT Q*W(0+B6)	ENT B5*0	06278	12500	00000		
	C5013	PLAYUPA	ENT Q*W(0+B6)	06301	10036	30000	BRING 1ST WORD TEST FOR 0	
	05014	A00 Q*0*QNOT	PLAYUPA	06302	26500	00000		
	C5015	JP PLAYUPB	ENT Q*0*QNOT	06303	61000	06312		
	05016	CL A*	JP PLAYUPB	06304	11000	00000		
	05017	LSH AQ*6*ANOT	CL A*	06305	07500	00006	IF NOT GET NEXT \$D	
	05020	JP PLAYUPA+1	LSH AQ*6*ANOT	06306	61000	06302		
	C5021	STR A*W(LAYUPSTOR+B51)	JP PLAYUPA+1	06307	15035	05322	STORE IN NEXT SLOT	
	05022	BSK B5*LAYUPLMT	STR A*W(LAYUPSTOR+B51)	06310	71500	00202		
	05023	JP PLAYUPA+1	BSK B5*LAYUPLMT	06311	61000	06302		

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CARD	LI	IO	LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
	05024		PLAYUP8	BSK B6*B7-1 JP PLAYUPA	06312	71607	77776				TILL ALL WORDS DONE
	05025			STR B5*W(CHARNO)	06313	61000	06301				SAVE NUMBER OF CHARACTERS
	05026			ENT B7*0	06314	16530	06525				RESTORE B-REGS
	05027		PLAYBSTOR	ENT B6*0	06315	12700	00000				
	05030			ENT B5*0	06316	12600	00000				
	05031			RPL Y+1*L(PLAYUP)	06317	12500	00000				
	05032			EXIT	06320	36010	06265				
	05033			EQUALS 130D	06321	61010	06265				
	05034		LAYUPLMT	RESERVE 131D	06322	00000	00000				
	05035		LAYUPSTOR	RESERVE 1	06525	00000	00000				
	05036		CHARNO		06526	61000	00000				
	05037		PFRACSTOR	ENTRY A*W(BETA)*ANOT	06527	11530	07170				
	05040			JP PFRACB	06530	61000	06560				
	05041			ENT A*75	06531	11000	00075				
	05042			STR A*L(PBUF+B1)	06532	15011	07274				
	05043			BSK B1*1290	06533	71100	00201				
	05044			JP \$+2	06534	61000	06536				
	05045			RPL PFRACERR	06535	61000	06555				
	05046			ENT B4*0	06536	12400	00000				
	05047			ENT B5*0	06537	12500	00000				
	05050		PFRACA	ENT Q*W(I0FRACTION+B5)	06540	10035	07200				
	05051			CL A*	06541	11000	00000				
	05052			LSH AQ*6	06542	07000	00006				
	05053			STR A*L(PBUF+B1)	06543	15011	07274				
	05054			BSK B1*1290	06544	71100	00201				
	05055			JP \$+2	06545	61000	06547				
	05056			RPL PFRACERR	06546	61000	06555				
	05057			JP PFRACB	06547	37530	07170				
	05060			Y-1*W(BETA)*ANOT	06550	61000	06560				
	05061			ENT A*W(PFRACERR1)	06551	71400	00004				
	05062			BSK B4*4	06552	61000	06541				
	05063			JP PFRACA+	06553	71500	00001				
	05064			BSK B5*1	06554	61000	06540				
	05065			JP PFRACA	06555	11030	06562				
	05066		PFRACERR	ENT A*W(PFRACERR1)	06556	65000	06613				
	05067			RJP PERRRR	06557	61010	06526				
	05070			EXIT	06558	36010	06526				
	05071		PFRACB	RPL Y+1*L(PFRACSTOR)	06561	61010	06526				
	05072			EXIT	06562	00001	PFRACSTOR				
	05073		PFRACERR1	COMMENT ROUTINES	06562	00001	TO SAVE AND RESTORE ALL REGISTERS				
	05074				06563	61000	00000				
	05075		PSAVE	ENTRY STR A*W(PASTOR1)	06564	15030	06611				
	05076			STR Q*W(PQSTOR1)	06565	14030	06612				
	05077			STR B1*L(PRESTORE+1)	06566	16110	06577				
	05100			STR B2*L(PRESTORE+2)	06567	16210	06600				
	05101			STR B3*L(PRESTORE+3)	06570	16310	06601				
	05102			STR B4*L(PRESTORE+4)	06571	16410	06602				
	05103			STR B5*L(PRESTORE+5)	06572	16510	06603				
	05104			STR B6*L(PRESTORE+6)	06573	16610	06604				
	05105			STR B7*L(PRESTORE+7)	06574	16710	06605				
	05106			EXIT	06575	61010	06563				
	05107										

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J00\* 1/22/65

CARD	L1	I0	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
	05110		PRESTORE	ENTRY	06576	61000	00000		
*	05111			ENT B1*0	06577	12100	00000		
*	05112			FNT B2*0	06600	12200	00000		
*	05113			ENT B3*0	06601	12300	00000		
*	05114			ENT B4*0	06602	12400	00000		
*	05115			ENT B5*0	06603	12500	00000		
*	05116			ENT B6*0	06604	12600	00000		
*	05117			ENT B7*0	06605	12700	00000		
*	05120			ENT A*W(PASTOR1)	06606	11030	06611		
*	05121			ENT Q*W(PQSTOR1)	06607	10030	06612		
*	05122			EXIT	06610	61010	06576		
*	05123		PASTOR	0 0	06611	00000	00000		
*	05124		PQSTOR	0 0	06612	00000	00000		
*	05125			COMMENT ROUTINE CODE					TO PRINT AND TYPE ERROR AND LOCATION
*	05126			COMMENT					
*	05127			COMMENT					
*	05130		PERRORR	STR A*LL(PERRORR2)	06613	61000	00000		
*	05131			RSH A*150	06614	15010	06623	LOC	
*	05132			SEL SET*W060	06615	02000	00017		
*	05133			STR A*W(PERROR1)	06616	50000	06060		
*	05134			RJP PIMAGE	06617	15030	06654		
*	05135			O PERROR4	06620	65000	05747		
*	05136			NO-OP	06621	00000	06651		
*	05137		PERRORR2	ENT Q*W(L001)	06622	12000	00000		
*	05140			CL A*	06623	10010	00000		GET LOC OF CALLER
*	05141			LSH Q*150	06624	11000	00000		
*	05142			LSH A*3	06625	05000	00017		
*	05143			LSH AQ*3	06626	06000	00003		
*	05144			LSH AQ*0*QZERO	06627	07000	00003		
*	05145			A00 Q*0*QZERO	06630	26400	00000		
*	05146			JP \$-3	06631	61000	06626		
*	05147			SEL SET*N(SIXTIES1)	06632	50030	07166		
*	05150			STR A*W(PERROR15)	06633	15010	06660		
*	05151			RJP PSKRIB	06634	65000	06057	PRINT	
*	05152			I 0	06635	00001	00000		
*	05153			NO-OP	06636	12000	00000		
*	05154			RJP PLAYUP	06637	65000	06265		SPREAD OUT MESSAGE
*	05155			U-TAG PERROR4*80	06640	06640	00010		
*	05156			ENT A*0403	06641	11000	00403		A00 CR AND LF
*	05157			STR A*W(LAYUPSTOR4001)	06642	15030	06372		
*	05160			NO-OP	06643	12000	00000		
*	05161			JP \$-1KEYOUT*ACTIVEOUT	06644	53100	06643		
*	05162			OUT KEYOUT*W(PERROR91)	06645	74130	06663		
*	05163			NO-OP	06646	12000	00000		
*	05164			JP \$-1KEYOUT*ACTIVEOUT	06647	63100	06646		
*	05165			EXIT	06650	61010	06613		
*	05166		PERROR4	F0 3*ERROR TYPE	06651	12272	72427		
*	05167		PERROR1	F0 0 0 AT LOCATION	06652	05313	52512		
*	05170			F0 3* AT LOCATION	06653	05050	50505		

\*\*\*\*\* PRINTOUT \*\*\*\*\* SPURT OUTPUT NO. 210  
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CARD	L1	ID	LABEL	TA STATEMENT	LOC	F	JK8	Y	NOTES
*	05171		PERRORS	0 0 77777 00000	06660 00000 00000				
*	05172		PERRORB	U-TAG	06661 77777 00000				
*	05173		PERROR9	U-TAG	06662 06651 06322				
*	05174		BINOECLNT	JP 0 LAYUPSTOR+360*PERROR4	06663 06366 06322	06664 61000 00000	06665 16120 06714	06666 16210 06714	06667 16710 06712
*	05175			STR B1*U(BINOECLNT31					INITIALIZE B REGS FOR COUNT
*	05176			STR B2*L(BINOECLNT31					EXIT ENTRY
*	05177			STR B7*L(BINOECLNT41					SAVE B REGISTERS
*	05200			CL B2					
*	05201			ENT B1*1					
*	05202			STR B1*W1SIGN1					
*	05203								STORE 1 1B11 IN SIGN AS NEG SI
*	05204			ENT Q*W1INTEGER1*QNEG					GN TEST IF NUMBERITO BE CONV1 IS NEG
*	05205			RPL Y-1*W1SIGN1*SKIP	06670 12200 00000	06671 12100 00001	06672 16130 07173	06673 10330 07171	POS RESET SIGN TO ZERO-GO TO A
*	05206			CP Q					AIN NEG LEAVE SIGN-COMPLEMENT NUMB
*	05207		BINOECLNT1	CL W10INTEGER+B11	06674 06675 14000 00000	06676 16031 07176	06677 11000 00000	06678 23000 00012	06679 20000 00060
*	05210		BINOECLNT2	CL A					INCORPORATE FLDATA BITS
*	05211			DIV 12					VARIABLE SHIFT TO INCORP FLOAT
*	05212			ADD A*60					A
*	05213			RPT B2					MAIN LOOP-INITIALLY CLEAR OUTP
*	05214			LSH A*6					UT CLEAR A FOR DIVIDE
*	05215			RSE SET*W10INTEGER+B11					NEC DEC DIGIT REMAINS IN A
*	05216			BSK B2*4					INCORPORATE FLDATA BITS
*	05217			JP BINOECLNT2					MAIN LOOP-INITIALLY CLEAR OUTP
*	05220			BJP B1*BINOECLNT1					ER
*	05221			ENT B1*U(BINOECLNT31					SHIFT TO INCORP FLOAT
*	05222			ENT B2*L(BINOECLNT31					A
*	05223			ENT B7*0					MAIN LOOP-INITIALLY CLEAR OUTP
*	05224			JP BINOECLNT					ER
*	05225			O O					SHIFT TO INCORP FLOAT
*	05226			JP O					A
*	05227			STR B7*L(BINOCFLD31					MAIN LOOP-INITIALLY CLEAR OUTP
*	05228			CL B7					ER
*	05229			ENT Q*W1INTEGER1					SHIFT TO INCORP FLOAT
*	05230			CL A					A
*	05231			BINOCFLD1					MAIN LOOP-INITIALLY CLEAR OUTP
*	05232								ER
*	05233			BINOCFLD2 LSH A*3					SHIFT TO INCORP FLOAT
*	05234			LSH AQ*3					A
*	05235			ADD A*60*ANEG					MAIN LOOP-INITIALLY CLEAR OUTP
*	05236			JP BINOCFLD2					ER
*	05237			STR A*W110INTEGER+B71					MAIN LOOP-INITIALLY CLEAR OUTP
*	05240			BSK B7*1					ER

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CAROS	L1	ID	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
		05241	BINOCFL03	JP	BINOCFL01	06730	61000	06721		NO- MAKE 2NO WORD
		05242		ENT	B7*0	06731	12700	00000		
		05243		JP	BINOCFL0	06732	61000	06715		AND EXIT
		05244	BINDECfra	ENTRY		06733	61000	00000		
		05245		CL	B7	06734	12700	00000		SET BREG
		05246		ENT	Q* 1	06735	10000	00001		FIND IF NO IS + OR -
		05247		ENT	A*W(FRACTION)*APOS	06736	11530	07172		SET SIGN APPROPRIATELY
		05250		STR	A*A*ANOT	06737	15540	00000		AND SET NUMBER POSITIVE
		05251		ENT	Q*0	06740	10000	00000		
		05252		STR	Q*W(SIGN)	06741	14030	07173		
		05253		RSH	AQ*290	06742	03000	00035		INITIALIZE
		05254	BINDECfra1	ENT	A*0	06743	11000	00000		SET OUTPUT WORD TO ZERO
		05255	BINDECfra2	LSH	A*6	06744	06000	00006		RESET OUTPUT WORD FOR NEXT CO
		05256		STR	A*W(L1)OFRACTION+B71	06745	15037	07200		AND STORE
		05257		RSH	AQ*1	06746	03000	00001		SET Q FOR MUL OPERATION
		05260		MUL	2L	06747	22000	00024		PRODUCT AT B29
		05261		SEL	SET*60	06750	50000	00060	INSERT FIELD BITS	
		05262		RSE	SETW(L1)OFRACTION+B71*ANEG	06751	54737	07200		INSER NEW CODE WORD FILLED
		05263		JP	BINDECfra2	06752	61000	05744		NO-KEEP FILLING SAME WORD
		05264		BSK	B7*1	06753	71700	00001		YES-ARE BOTH WORDS FILLED
		05265		JP	BINDECfra1	06754	61010	06733		NO-DO SECOND WORD
		05266		EXIT		06755	61000	00000		
		05267	COFFIX	ENTRY		06756	16710	07012		
		05270		STR	B7*L1(COFFSTOR)	06757	16210	07010		
		05271		STR	B2*L1(COFFTEM1)	06760	16310	07011		
		05272		STR	B3*L1(COFFTEM2)	06761	16310	07011		
		05273		CL	W(FXCODE1)	06762	16030	0165		INITIALIZATION
		05274		CL	W(SIGN)	06763	16030	07173		
		05275		ENT	B2*L1(COFFIX1)	06764	12210	05756		82 CONTAINS LOC OF ARG + GAMMA
		05276		ENT	B3*W(B2)	06765	12322	00000		
		05277		ENT	A*W(B3)*ANEG	06766	11733	00000		ARGUMENT INTO A TEST + JR -
		05300		JP	COFF1	06767	61000	06772		+ CONTINUE
		05301		STR	A*W(FXCODE1)	06770	15030	07165		
		05302		CP	A*	06771	15040	00000		-
		05303	COFF1	CL	Q*	06772	10000	00000		
		05304		ENT	B2*LIB21	06773	12212	00000		
		05305		RSH	AQ*B2	06774	03002	00000		
		05306		STR	A*W(INTEGER1)	06775	15030	07171		
		05307		LSH	Q*29D	06776	05000	00035		
		05310		STR	Q*W(FRACTION)	06777	14030	07172		
		05311		ENT	BINDECINT	07000	65000	06664		CONVERT BIN INT TO FLDIA
		05312		RJP	BINDECfra	07001	65000	06733		CONVERT BIN FRAC TO FLDIA
		05313		RJP	COFRND	07002	65000	07053		
		05314		RJP	SUPZRO	07003	65000	07014		
		05315		U-TAG	I0INTEGER*2	07004	07176	00002		
		05316		ENT	A*W(FXCODE1)*AZERO	07005	11430	07165		
		05317		STR	A*W(SIGN)	07006	15030	07173		
		05320		RPL	Y+ 1*(COFFIX1)	07007	36010	06756		
		05321	COFFTEM1	ENT	B2*0	07010	12200	00000		
		05322	COFFTEM2	ENT	B3*0	07011	12300	00000		
		05323	COFXSTOR	ENT	B7*0	07012	12700	00000		

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CARDS	L1 L0 LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
	05324	EXIT	07013	61010 06756	
	05325 SUPZRO	ENTRY B6*L(SUPB\$TOR)	07014	61000 00000	
	C5326	STR B7*L(SUPB\$TOR+1)	07015	16610 07050	
		STR B7*L(SUPZRO)	07016	16710 07051	
	05327	ENT B7*L(SUPZRO)	07017	12710 07014	
	05330	RPL Y+L*(SUPZRO)	07020	36010 07014	
	05331	ENT B6*I(B7)	07021	12617 00000	NO OF WROS
	C5332	STR B6*L(SUPZRO3)	07022	16610 07036	
		ENT B6*I	07023	12500 00001	
	05334	ENT B7*U(B7)	07024	12727 00000	ADDRESS
		ENT Q*N(B7)	07025	10037 00000	BRING NEXT (1ST) WORD
	C5335 SUPZRO1	CL A*	07026	11000 00000	
		LSH AQ*6	07027	07000 00006	MOVE 1 DIGIT INTO A
	05336 SUPZRO2	COM A*6*IYMORE	07030	04700 00061	TEST FOR EQUAL TO 60
		JP SUPZRO4	07031	61000 07043	IF NOT, JUMP TO CLEAN-UP
	05337 SUPZRO3	A00 Q*0QZERO	07032	26400 00000	IF SO, TEST FOR WORD EXHAUSTED
	05340	AD0			
	05341	JP SUPZRO2	07033	61000 07026	IF MORE OIGITS, RETURN TO TEST
		CL W(B7)	07034	16037 00000	
	C5345	ENT B7*I+B7	07035	12707 00001	IF NOT, BUMP ADDRESS OF WORD
		B5K B6*NIL	07036	71600 00000	TEST FOR ALL WORDS DONE
	05346	JP SUPZRO1	07037	61000 07025	RETURN FOR NEXT WORD
	C5347 SUPZRO3	ENT A*60	07040	11000 00060	IF WORDS ALL ZERO, PRINT 1
		ENT B7*B7-1	07041	12707 77776	
	C5348 SUPZRO4	JP SUPZRO5	07042	61000 07047	
		ADD Q*0*QN0T	07043	26500 00000	WHEN FIND NON-ZERO
	C5349 SUPZRO5	JP SUPZRO5	07044	61000 07047	
		ENT A*60	07045	07000 00006	MOVE REST OF WORD TO A
	C5350 SUPZRO6	LSH AQ*6	07046	61000 07043	
		ENT B7*B7-1	07047	15037 00000	STORE BACK IN PROPER SLOT
	C5351 SUPZRO7	STR A*N(B7)	07048	12600 00000	
		ENT B6*NIL	07051	12700 00000	
	C5352 SUPZRO8	ENT B7*0	07052	61010 07014	
		EXIT	07053	61000 00000	
	C5353 SUPZRO9	ENTRY A*90	07054	11000 00011	
		SUB A*N(BETA)	07055	21030 07170	
	C5354 COFRND	ENT B7*A	07056	12770 00000	PUT 9-BETA IN B7
		ENT Q*N(10FRACTION+1)	07057	10030 07201	BRING FLOATA FRACTION TO A
	C5355 SUPB\$TOR	ENT A*N(10FRACTION)	07058	11030 07200	
		CL W(10FRACTION)	07061	16030 07200	
	C5356 COFRND1	ENT A*90	07062	16030 07201	
		CL W(HIBIT)	07063	52030 07157	
	C5357 COFRND2	ENT B7*C0FRND2	07064	72700 07066	SUBTRACT 1 FROM B7
		JP COFRND3	07065	61000 07070	WHEN B7 IS 0, STOP SHIFTING
	C5358 COFRND3	AQ*6	07066	03000 00006	SHIFT OFF 1 DIGIT
		RSH COFRND1	07067	61000 07064	RETURN TO TEST B7
	C5359 COFRND4	JP COFRND1	07068	07000 00066	PUT BETA 1TH DIGIT IN A1-6
		LSH AQ*540	07069	07000 00066	
	C5360 COFRND5	COM A*N(SIXTYFIVE)*MORE	07070	07070	
		JP COFRND5	07071	04730 07161	
	C5361 COFRND6	SEL CL *W(M6L)	07072	61000 07102	IF MORE THAN 4, GO TO ADD 1
		LSH AQ*I*ANEQ	07073	52030 07162	IF LESS THAN 5, CLEAR IT
	C5362 COFRND7	JP COFRND4	07074	07700 00001	LEFT JUSTIFY FRACTION
		07075	61000 07074		

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JDD#1/22/65

CARDS		L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
		*	05407		RSH	AQ*I	07076	03000	00001		PUT HIGH ORDER BIT BACK ON
		*	05410	COFRN041	STR	A*W(I0FRACTION)	07077	15030	07200		STORE AWAY
		*	05411		STR	Q*W(I0FRACTION*)II	07100	14030	07201		
		*	05412		JP	COFRN06I	07101	61000	07141		
		*	05413	COFRN05	SEL	CL*(M6L1)	07102	52030	07162		IF MUST ADD 1, CLEAR EXTRA DIGIT
		*	05414		LSH	AQ*540	07103	07000	00066		IT SHIFT LOW-ORDER DIGIT TO TOP J
		*	05415		COM	A*W(SEVENTYONE)*YMORE	07104	04730	07163		F A TEST EQUAL TO 71
		*	05416		JP	COFRN051*ANOT	07105	60500	07112		IF SO, RETURN TO TEST NEXT 013
		*	05417		JP	COFRN06*AZERO	07106	60400	07122		IT NOT, TEST FOR FRACTION ALL 0
		*	05420		A00	A*W(BIT51	07107	20030	07164		IF NOT, ADD 1 TO OIGIT
		*	05421		LSH	AQ*6	07110	07000	00006		RIGHT JUSTIFY FRACTION
		*	05422		JP	COFRN04	07111	61000	07074		
		*	05423	COFRN051	JP	COFRN05*ANEG	07112	60700	07102		OIGIT MAY HAVE HAD HIBIT
		*	05424		SEL	SET*W(HIBIT)	07113	50030	07157		CLEARED, SO RESTORE AND
		*	05425		COM	A*W(SEVENTYONE)*YMORE	07114	04730	07163		
		*	05426		JP	COFRN05	07115	61000	07102		
		*	05427		A00	A*W(BIT5)	07116	20030	07164		
		*	05430	COFRN52	LSH	AQ**SANE	07117	07700	00006		
		*	05431		JP	COFRN052	07118	61000	07117		
		*	05432		JP	COFRN041	07119	61000	07117		
		*	05433	COFRN06	ENT	Q*W(I0INTTEGER+1)	07120	61000	07117		
		*	05434		ENT	A*W(I0INTTEGER)	07121	61000	07077		
		*	05435		JP	COFRN07+1	07122	10030	07177		
		*	05436	COFRN07	SEL	CL*(M6L1)	07123	11030	07176		
		*	05437		LSH	AQ*540	07124	61000	07126		
		*	05440		COM	A*W(SEVENTYONE)*YMORE	07125	52030	07162		
		*	05441		JP	COFRN07	07126	07000	00066		
		*	05442		A00	A*W(BIT5)	07127	04730	07163		
		*	05443	COFRN08	LSH	AQ*6ANEG	07128	61000	07132		
		*	05444		JP	COFRN08	07129	61000	07132		
		*	05445		SEL	SET*W(SIXTIES)	07130	50030	07166		
		*	05446		STR	A*W(I0INTEGER)	07131	07000	00000		
		*	05447		STR	SET*W(SIXTIES)	07132	07700	00006		
		*	05450		SEL	A*W(I0INTEGER+1)	07133	61000	07132		
		*	05451		ENT	B7*N(BETA)	07134	50030	07166		
		*	05452	COFRN081	B7*COFRN09		07135	15030	07176		
		*	05453		B7*COFRN09		07136	14040	00000		
		*	05454		JP	COFRN011	07137	50030	07166		
		*	05455	COFRN09	ENT	B7*N(BETA)	07138	15030	07177		
		*	05456		CL	Q*	07139	12730	07170		
		*	05457		BJP	B7*COFRN010	07140	15030	07170		
		*	05460		JP	COFRN011	07141	72700	07144		
		*	05461	COFRN010	LSH	AQ*540	07142	61000	07153		
		*	05462		SEL	SET*W(SIXTY)	07143	61000	07153		
		*	05463	COFRN011	BJP	B7*COFRN010	07144	11030	07160		
		*	05464		RSE	SET*W(I0FRACTION)	07145	10000	00000		
		*	05465		STR	Q*A	07146	72700	07150		
		*	05466		RSE	SET*W(I0FRACT10N+1)	07147	14040	00000		
		*	05467		EXIT		07148	54030	07201		
		*					07149	61010	07053		

SPURT OUTPUT NO. 210  
JOO•1/22/65

CAROS	L1	I0	LABEL	TA	STATEMENT	PRINTOUT	SPURT OUTPUT NO. 210 JOO•1/22/65	LOC	F	JKB	Y	NOTES
			C5470	HIBIT	40000	0		07157	40000	00000		
			05471	SIXTY	60000	0		07160	60000	00000		
			05472	SIXTYFIVE	65000	0		07161	65000	00000		
			05473	M6L	77000	0		07162	77000	00000		
			05474	SEVENTYONE	71000	0		07163	71000	00000		
			05475	BITS	01000	0		07164	01000	00000		
			05476	FXCOOE	0	0		07165	00000	00000		
			05477	SIXTIES	60606	06060		07166	60605	06060		
			05500	GAMMA	RESERVE	1		07167	00000	00000		
			05501	BETA	RESERVE	1		07170	00000	00000		
			05502	INTEGER	RESERVE	1		07171	00000	00000		
			C5503	FRACTION	0	0		07172	00000	00000		
			05504	SIGN	RESERVE	1		07173	00000	00000		
			05505	EXPONENT	RESERVE	1		07174	00000	00000		
			05506	FPFRACITION	RESERVE	1		07175	00000	00000		
			C5507	INTTEGER	RESERVE	2		07176	00000	00000		
			05510	IFRACITION	RESERVE	2		07202	00000	00000		
			05511	LOEXPONENT	RESERVE	1		07203	00000	00000		
			05512	EXP SIGN	RESERVE	1		07204	00000	00000		
			C5513	UNPACKBUFF	0	PBUF+		07205	07207	07241		
			05514	PACKBUFF	U-TAG	PREGION+ 1•PREGION+270		07206	00000	00000		
			05515	PREGION	00	00		07207	00000	00000		
			05516	PREGION	RESERVE	260		07241	00000	00000		
			C5517	00	00			07242	00000	00000		
			05520	PBUF	RESERVE	260		07274	00000	00000		
			05521	PBUF	RESERVE	1290		07475	00000	00000		
			05522	PBUF	RESERVE	1		07476	12300	00004		
								07477	30100	00004		
								07500	00002	50600		
								07501	12300	00010		
								07502	60000	00000		
								07503	77760	00000		
								07504	00026	70660		
								07505	40000	00000		
								07506	52000	00004		
								07507	20300	00004		
								07510	12200	00010		
								07511	20300	00010		
								07512	00300	00010		
								07513	02300	00010		
								07514	21100	00010		

## SPURT OUTPUT NO. 211

PRINTOUT		JOO* 1/22/65		LABEL		LOC		LABEL		LOC	
A\$#####1111	07476	A\$#####1112	07477	A\$#####1113	07500	A\$#####1116	00457	A\$#####1119	07503	A\$#####111C	01537
A\$#####1114	07501	A\$#####1115	00455	A\$#####111B	07502	A\$#####111F	07506	A\$#####111I	07511	A\$#####111L	07514
A\$#####1117	00463	A\$#####111B	01430	A\$#####111E	07505	A\$#####111F	07511	A\$#####111I	07514	A\$#####111L	63427
A\$#####111A	07504	A\$#####111B	01430	A\$#####111E	07510	A\$#####111H	07513	A\$#####111K	07514	A\$#####111L	63416
A\$#####1110	01565	A\$#####111E	07505	A\$#####111H	07510	A\$#####111K	07513	A\$#####111L	07514	A\$#####111M	63417
A\$#####111G	07507	A\$#####111E	07510	A\$#####111H	07513	A\$#####111K	07513	A\$#####111L	07514	A\$#####111M	04502
A\$#####111J	07512	A\$#####111K	07513	A\$#####111L	07514	A\$#####111M	63522	A\$#####111V	01525	ARCOFELEV	01525
ACQAZIM	63071	ACQUEV	63075	ACQUI	63416	ARNOHEAD	02042	ASKMIN	02042	ASOCN	63417
ACTUALTIME	63142	AJUSTBUFR	01561	ASTARK	04541	ATAN	05257	ATIMOFFSET	04502	ANNTITLE	04516
AOVANBFI	01374	AEBOXLINES	63507	ANSSTTM	63507	ANSNOTM	04517	AZELOTIME	63532	ARCOFOEC	00646
ALNGOFFSET	63517	ALNGACRSCN	63506	ARCOFOEC	63526	ARCOFAZIM	63530	AZIMAO0	63512	ARCOFRA	02030
ANSOUTPUT	03412	ANSENOTH	04517	ARCOFOEC	63526	ARCOFAZIM	63524	AZIMAO0	63442	ARCOFRA	02030
ARCOFAZIM	63524	ARCOFOEC	63526	AZIMAO0	63526	ARCOFAZIM	63524	AZIMAO0	63442	ARCOFRA	02030
ARCOFRA	63530	ARNO	00646	AZIMAO0	63526	ARCOFAZIM	63524	AZIMAO0	63442	ARCOFRA	02030
ARNOHENRY	01536	ASKHR	02030	AZIMAO0	63526	ARCOFAZIM	63524	AZIMAO0	63442	ARCOFRA	02030
ASKSEC	02051	ASKTIMES	00101	ASTARK	04541	ATAN	05257	AZIMAO0	63442	ARCOFRA	02030
ASTROOEC	63106	ASTROARA	63105	ATAN	04541	ATIMOFFSET	04502	AZIMAO0	63442	ARCOFRA	02030
AUPEREQUAT	63541	AWAYEGO	00222	AZIMAO0	63442	ATIMOFFSET	04502	AZIMAO0	63442	ARCOFRA	02030
AZOUTSW	02234	AZOIFS	63120	AZIMAO0	63442	ATIMOFFSET	04502	AZIMAO0	63442	ARCOFRA	02030
AZELBXSCAN	63500	AZIM	63053	AZIMAO0	63442	ATIMOFFSET	04502	AZIMAO0	63442	ARCOFRA	02030
AZIMOUT	64000	AZIMOVER	63325	AZIMAO0	63442	ATIMOFFSET	04502	AZIMAO0	63442	ARCOFRA	02030
AZIMIN	75000	AZINEQ	75000	BCBLOCK	02230	BCBLOCK	02230	BCDANS	02230	BCDANS	02230
AZIMTHSCAN	63501	BODYSIZE	63462	BOTTLINE	06227	BOTTLINE	06227	BACKWOS	03260	BACKWOS	03260
BOTHMARG	06225	BACK	03115	BAOMCH	03767	BAOMCH	03767	BAONNEWS	03260	BAONNEWS	03260
BACKWOSA	00325	BAOMCH	03115	BCCOLOR	01715	BCCOLOR	01715	BASICCOLR	03236	BASICCOLR	03236
BASICCOLC	01764	BCDANS	03406								
BCOUTPUT	03371	BEHAEOE	04460	BETIA	07170	BETIA	07170	BINOCFL01	06721	BINOCFL01	06721
BCQUES	03372	BINOCFL00	06715	BINOCFL01	06731	BINOCFL03	06731	BINOCFL01	06733	BINOCFL01	06733
BIGT	02360	BINOCFL00	06715	BINOCFL03	06731	BINOCFRA2	06744	BINOCFL01	06664	BINOCFL01	06664
BINOCTFL02	06722	BINOCFL00	06715	BINOCFRA2	06744	BINOCINT3	06714	BINOCFL01	06664	BINOCFL01	06664
BINDECFL01	06743	BINOCFL00	06715	BINOCINT3	06714	BINOCINT3	06714	BINOCFL01	06664	BINOCFL01	06664
BINOECDINT1	06676	BINOCFL00	06715	BINOCINT3	06714	BLASTOFF	63146	BINOCFL01	06664	BINOCFL01	06664
BINOECDINT4	06712	BITS	07164	BRNO	00760	BRNO	00760	BUFFERPRV	02725	BUFFERPRV	02725
BRANONEW	02025	BEHEAOE	04460	BINOCFL00	06715	BINOCFL00	06715	COFF1	06756	COFF1	06756
COCON	63414	BINOCFL00	06715	COFF2	07011	COFF2	07011	COFRNO1	07053	COFRNO1	07053
COFFTEM1	07010	COFFTEM2	07011	COFRNO10	07150	COFRNO10	07150	COFRNO11	07153	COFRNO11	07153
COFRNO1	07064	COFFTEM2	07011	COFRNO3	07070	COFRNO3	07070	COFRNO4	07074	COFRNO4	07074
COFRNO2	07066	COFRNO10	07150	COFRNO5	07102	COFRNO5	07102	COFRNO51	07112	COFRNO51	07112
COFRNO1	07077	COFRNO6	07122	COFRNO6	07122	COFRNO8	07141	COFRNO7	07125	COFRNO7	07125
COFRNO2	07117	COFRNO8	07141	COMMA	02201	COMMA	02201	COMPAREET	04521	COMPAREET	04521
COFRNO8	07132	COMPAR	04520	CONVERTIME	63135	CONVERTIME	63135	CORCT	63420	CORCT	63420
COFXSTOR	07012	COS	05140	COSORIENT	63065	COSORIENT	63065	COSAZEL	63070	COSAZEL	63070
COUNT	04103	COUNTER	02664	C1SEXTINT	03106	C1SEXTINT	03106	CAZIM	63060	CAZIM	63060
CARRION	00272	CARRION	03540	CELEVM	63061	CELEVM	63061	CHANNEL	04011	CHANNEL	04011
CELBOODY	63113	CELEVM	63424	CHKCENTM	00136	CHKCENTM	00136	CHKCENTM	01632	CHKCENTM	01632
CELTIME	63133	CHOICEQUE	00431	CHGAOR	02714	CHGAOR	02714	CHGAOR	01376	CHGAOR	01376
CHARNO	06525	CHCOR	63422	CNTRP	63053	CNTRP	63053	CNTRP	63053	CNTRP	63053
CHECKMIN	00553	CNTPAR	63431	CRANGE	01376	CRANGE	01376	CRANGE	63053	CRANGE	63053

## SPURT OUTPUT NO. 211

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PRINTOUT	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC	LDC
CRSSOFFSET	63516	CSKEY	04533	OOPROUTEQ	74000					
OOPOUTSW	0224D	OOPPOUT	66000	OOPPA00	63444					
OOBLESP	03744	02483	04332	0360820	02064					
0360B3	04272	06DB1	04333	DAMIC	01411					
DATA	63000	0ATA2	71000	DATAANALYZE	63425					
DATA SWITCH	02226	DAY	63150	OAYNO	0220D					
DAY	02161	OOCOL	01733	DEC	63003					
DECOFFSET	63515	OECOUT	05065	OEDDOT	63010					
DEC0EG	04273	OECINOMS	04240	OECINSCAN	63505					
DECMAIN	04274	DECPOINT	04300	DECPLUS	01743					
DECSEC	04275	DECSECXX	04276	DECSIGN	04271					
DELTAD	06000	DELTATEE	63316	DELTIME	02216					
DICTIONARY	04104	0NEHRS	04526	0NEMINS	04527					
0MESECS	04530	0MESECTTG	04532	0MNCOL	01745					
0MSHRS	04523	0MSMINS	04524	0MSSECONDS	04525					
0MSSECTTG	04531	0PTCDL	01761	0UMMY	63141					
DSECCOL	01751	0SSXXCOL	01755	0YDMP	03320					
0UMSECTTG	63154	0YDNEWS	63421	E	02202					
EOFNEWS	03343	0Z330	03330	ELROUTEQ	73000					
ELOUTSW	02236	ELDTFS	63121	ELEV	63054					
ELOFFSET	63513	ELEVDT	65000	ELEVADO	63443					
ELEV IN	7600D	ELINEQ	76000	ELINSMW	02232					
ELVINSCAN	63502	ENDOFTAPM	03553	ENDTAPE	04001					
ENOTAPEM	03362	ENOTAPEU	04237	EQUATOR	63323					
ESTSHIFTE0	63143	ETANS	04512	ETQUES	04503					
EVERYN	02006	EXCESS60	03322	EXPOUNIT	07174					
EXPNAME	63350	EXSIGN	07203	FORAZDUT	01666					
FORAZIM	00667	FORAZIN	01232	FEDDOP	02214					
FOROPDUT	0135D	FOREOUT	01307	FOREEV	00700					
FOREIN	01253	FORRDPA	01766	FORROPE	01767					
FOSTATCOOE	03176	FOTAPER	03240	FILEONE	00023					
FILLBLNK	02004	FILLCHAR	00575	FILLNEG	02005					
FINALIZER	0041D	FIRSTTELEV	63104	FIRSTTHRU	63153					
FLATTENING	63337	FMEOF\$3	00424	FMJUMPBACK	00415					
FNLOOP	00364	FPPRACITION	07175	FRACTION	07172					
FRAMESIZE	63101	FREQUENCY	63317	FRERPAGE	00007					
FX	02217	FXCODE	07165	GOTHRU	00366					
GAMMA	07167	GEODENLAT	63322	GEODETLAT	63321					
GETOUT	01554	GETADO	06264	GETCHAR	04227					
GETPACK	02645	GMMODU24	63145	GMSHIFTED0	63144					
HOLONOHOL0	63511	HOURLMINUTE	63137	HOURREG	63151					
HOURS	02211	HOMANY	02067	HEAD	02070					
HEADKEY	02126	HEIGHT	63326	HERE	03557					
HHCOL	01664	HBIT	07157	HSPOUTPUT	03370					
I0EXPONENT	07202	I0FRACTION	07200	I0INTEGER	07176					
I0IDRA010	66777	I011RA010	67776	I012RA010	67777					
I013RA010	70775	I014RA010	70776	I015RA010	71776					
I016RA010	71777	I017RA010	72776	I018RA010	72777					
I019RA010	73776	I01CELCOR	63000	I0IDENTPNT	63410					
I01RA010	63050	I01RA010	63440	I0IRECRO	63210					
I01SYSNAM	77576	I01SYSNAM	77676	I0ISYSNAM	63310					

SPURT OUTPUT NO. 211  
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PRINTOUT	LOC	LABEL	LOC	LABEL	LOC
IO1TIME	63130	1020RA010	73777	1021RA010	74776
I022RA010	74777	I023RA010	75777	I024RA010	75777
I025RA010	76775	I026RA010	76776	I02CEL0R	63001
I02ENTPNT	63411	I02RA0COR	63051	I02RA010	63441
I02RECREO	63211	I02SYSENTE	77577	I02SYSNAH	77677
I02SYSPAR	63311	I02TSEME	63131	I03RA010	63776
I04RA010	63777	I05RA010	64776	I06RA010	64777
I07RA010	65776	I08RA010	65777	I09RA010	66776
INAZIMAO0	63446	INBUFFER	03101	INLEVA00	63447
INPUTAPE0	03324	INSERT	00046	INSERTA	02066
INSERTX	02622	INTEGER	07171	INTER	63413
INTERAZIM	72000	INTERCOM	63426	INTEROPP	74000
INTERELEV	73000	INTERJUMP	03114	INTERLOCK	63460
INTERLOCKP	03123	INTERLUCK	04006	INTJUMP	03766
INTERRANGE	76777	INTERRUPT	03761	ISERA011	00637
IRSWITCH	02222	ISAU	00624	JPIINTERUP	03760
ISIO	01403	JPC15EXT	03200	KOCTI00	03304
JPPRINTOVR	02723	JUMPBACK	00426	KMPERNM	63342
KOVR LAP	01641	KEEPON	00203	KP3	03466
KP1	03464	KP2	03465	KP6	03471
KP4	03467	KP5	03470	KPQ	03463
KP7	03472	KPA	03462	LOOP2	04226
KYBROLEVEL	63110	LOOP1	02646	LOOPSTART	02644
LOOPLIMIT	02653	LOOPLIMIT2	04233	LOCKP	03131
LOOPSTART2	04224	LOOPX	01223	LABELB	04367
LONGITUDE	63320	LABELA	04341	LAYUPLMT	00202
LA100UT	03541	LAUNCH00	00234	LINCNT	06230
LAYUPSTOR	06322	LETSGO	00164	MORELOOK	01545
LSPERAU	63336	MONTH	02127	M6L	07162
MORESTUFF	01154	MOVER	01427	MAINSWITCH	63334
MACHERR	03266	MACHFAULT	01357	MCPGM	63412
MAXETIME	04522	MCPFILLER	71000	MINS	02212
MILLSTNA00	63451	MINREG	63152	MSWITCH	02221
MMCOL	01676	MSFREQ	63332	MYHEAD	02242
MUTE	04426	MYOUT	02406	NOREW	00030
NOGOTHRU	00451	NOPTS	02215	NOTINSIM	00276
NOTOPPAGE	00270	NOTIO	00452	NOWINTIME	00524
NOTZERO	01551	NOWANS	00443	NOWRAHH	00745
NOWOEC	00611	NOWQUES	00427	NEWTAPE	04033
NOWWHAT	00447	NEGSIGN	04277	NMPERAU	63340
NEWTITLE	00100	NIL	00000	POCTA	05455
NWSRCHIP	00200	POCTB	05471	POCTERR	05475
P0CTB	05465	POLE	63324	PORA	01647
P00EC	01716	POSRNG	00740	PACK	04204
PORUN	00002	PAGESIZE	00102	PARTY	03201
PACKBUFF	07205	PASTOR	06611	PBLANK	05621
PARTYMSG	03212	PBLANK1	05644	PBLANK2	05654
PBLANK05	05635	PBLANK4	05665	PBLANK5	05666
PBLANK3	05662	PBUF	07274	PCOLIN	05717
PBLANK6	05667	PCOLIN1A	05735	PCOLIN2	05740

## SPURT OUTPUT No. 211

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PRINTOUT

LOC	LABEL	LOC	LABEL	LOC	LABEL
05744	PCOLIN3	05745	PCOLINS	05746	PCOLINS
05670	PCOLR	05677	PCOLR2	05705	PCOLR2
05710	PCOLR3	05714	PCOLRS	05715	PCOLRS
05716	PCOLRG	06223	PENTA	06260	PENTA
06243	PENTRY	PERIOOZIM	PERIODEC	63525	PERIODEC
63521	PERIOOELEV	PERIOORA	PERIORI	63654	PERIORI
06660	PERIOR15	PEROR4	PERORR	06662	PERORR
06663	PEROR9	PERORR	PERORR2	066623	PERORR2
06222	PEXTINT	PFORASTOR	PFORBSTR	06054	PFORBSTR
05773	PFORM	PFORMERR	PFO	05557	PFO
05571	PFOA	PFOB	PFOC	05607	PFOC
05614	PFOERR	PFDERR1	PFIX	05476	PFIX
05507	PFIXB	PFIXC	PFIIX	05532	PFIIX
05550	PFIXERR	PFIXERR1	PFIIXR	05556	PFIIXR2
05551	PFIXERRA	PFIIXF	PFRACA	06540	PFRACA
06560	PFRACB	PFRACER	PFRACER1	06562	PFRACER1
06526	PFRACSTOR	PGMTABLE	PICKPGM	01477	PICKPGM
05747	PIMAGE	PIMAGE1	PIMAGE2	05771	PIMAGE2
05772	PIMAGE3	PINT	PINTB	05406	PINTB
05415	PINTC	PINTERR	PINTERRI	05436	PINTERRI
05437	PINTERR2	PINTERRA	PINTEXIT	05424	PINTEXIT
02507	PLOAZIM	PLOCAZIM	PLOCELEV	02522	PLOCELEV
02515	PLOANGE	PLOPEC	PLOECDOT	02517	PLOECDOT
02510	PLOELEV	PLORA	PLORAOOT	02506	PLORAOOT
02504	PLOAOIUS	PLORADSDT	PLORNGOT	02516	PLORNGOT
02520	PLOSAZIM	PLOSDEC	PLOSSORT	02523	PLOSSORT
02521	PLOSELEV	PLOSEPARE	PLOSEPARE	02513	PLOSEPARE
02524	PLOSSYSTAT2	PLOTP	PLOTROUTING	02512	PLOTROUTING
02526	PL2RA	PL4RA	PL6AZIM	02603	PL6AZIM
02605	PL6CAZIM	PL6CELEV	PL6CRANGE	02611	PL6CRANGE
02577	PL6DEC	PL6DECDOT	PL6ELEV	02604	PL6ELEV
02576	PL6RA	PL6RADOT	PL6RADUS	02600	PL6RADUS
02601	PL6RAQSOT	PL6RNGDOT	PL6SAZIM	02614	PL6SAZIM
02610	PL6SDEC	PL6SORTME	PL6SELEV	02615	PL6SELEV
02621	PL6SPARE1	PL6SRA	PL6SYSTEM	02611	PL6SYSTEM
02606	PL6TRUNG	PLANP	PLAYBSTR	02620	PLAYBSTR
06265	PLAYUP	PLAYUPA	PLAYUPB	02612	PLAYUPB
03224	PMSG	PQSTOR	PREGION	07206	PREGION
06576	PRESTORE	PREVIOUSSTM	PRINRECSW	63160	PRINRECSW
02665	PRINT	PRINTOUT	PRINTOVER	02720	PRINTOVER
02724	PRINTBUFFC	PRINTTITLE	PRINTWD	06231	PRINTWD
63423	PRLOG	PRSCRIBC	PSAVE	06563	PSAVE
06234	PSCASTOR	PSCQSTOR	PSCRASR	06220	PSCRASR
06134	PSCRAUF	PSCRIB	PSCRIBA	06067	PSCRIBA
06074	PSCRIBB	PSCRIBC	PSCRIBB	06232	PSCRIBB
06162	PSCRIBERR	PSCRIBF	PSCRIBG	06144	PSCRIBG
06103	PSCRIBH	PSCRIBI	PSCRIBJ	06116	PSCRIBJ
06163	PSCRIBSS	PSCRIBSSA	PSCRIBSB	06241	PSCRIBSB
06242	PSCRIBSC	PSCRIBSW	PSCRINT	06202	PSCRINT
06221	PSCROSTOR	PTCOL	PUTCOUNT	04210	PUTCOUNT
02632	PUTCOUNTER	QNSERT	QNSERTA	04514	QNSERTA

## SPURT OUTPUT NO. 211

PRINTOUT J00•1/22/65

LABEL	LOC	LABEL	LOC	LABEL	LOC
QHLOOP	00337	RA	63002	RAOFFSET	63514
RAOUT	05066	RA00T	63007	RAOARMOE	63312
RAOCXSCAN	63503	RA00C	02065	RADECOTIME	63531
RA010DEC	63541	RA010METER	63102	RA010RA	63540
RA010NIC	63157	RA01USOOT	63006	RA01USOOT	63011
RAHH	04335	RAINHH	04301	RAMM	04336
RANGE	63052	RANGEOUT	70777	RANGEAO	63445
RANGEOUT	63062	RAPLUS	01674	RASCTNSCAN	63504
RASIGN	04334	RASS	04337	RASSXX	04340
RB27	01642	ROOT0IFS	63123	RO19BITS	05031
ROAZ	05034	ROBOXLINES	63510	ROCONV	04542
ROCOSAZ	05044	ROCOSE	05046	ROCOSPHEE	05073
ROCOSSITE	05052	RODEGRAO	05067	ROEL	05035
ROFACT1	05055	ROFACT2	05056	RO1FS	63122
ROINT	04762	ROINITINO	05027	ROK1	05037
ROK11	05040	ROK2	05041	ROK21	05042
ROMR	63430	ROPA	04544	ROPE	04545
RDPG	04550	ROPHEE	05071	ROPR	04546
ROPS	04547	RORAOT00EG	05063	RORAOTOREV	05070
RORANGE	05036	ROREVMASK	05032	ROSCALB24	05062
ROSEIK	04607	ROSINAZ	05045	ROSINEL	05047
ROSIMPHEE	05072	ROSINSITE	05053	ROSITIEOR	05051
ROSTART	04551	ROTTEMP	05054	ROTHSIXTY	05033
ROTSF	05043	ROTWSSEC	05050	ROWONSEC	05064
ROWNERREV	05030	ROXSPRIME	05057	ROXXX	63433
ROYSPRIME	05060	ROZSPRIME	05061	READLOOP	00320
READTAPE	03074	RECORDSIZE	63112	RECAZ14	67000
RECELEV	70000	RECFILE	63212	RECRO	63415
RECROWSWATCH	63155	REOUNDANT	03772	RELEASESH	63156
RESEFCNT	00274	RESTART	00042	REVITAL	00166
REWYRN	03461	RESTORALL	03426	SAVEALL	03413
SAY11	02021	SAY1M	63055	SCLT1ME	63134
SOEC	63005	SEARCHTAPE	00173	SECONDS	63140
SECS	02213	SEELEV	63056	SETUP	02672
SEVENTYONE	07163	SGNCOL	01741	SIOERT1MF	63012
SIGN	07173	SIGNCOL	01672	SIMSWITCH	02026
SIN	05151	SINORIENT	63064	SINAZEL	63066
SINGLESPI	03745	SIXTIES	07166	SIXTY	07160
SIXTYFIVE	07161	SKIP1	63331	SK1POVFR	00347
SK1PPF	00376	SLAVE	63126	SLAVEOPTS	63124
SLAVEMOODES	63125	SORT	01674	SRA	63004
SRADTIME	63136	SSCOL	01702	SSXCOL	01706
STORECR	02707	STORELF	02711	STOREPACK	04232
STORUNPAK	02650	STANOEOCSE	00071	STANOEOCSY	00073
STANS	04476	STAT	03323	STATCODE	04012
STATSTOR	06236	STATUS	06237	STATUSCODE	03137
STAYLATE	01627	STHR	02060	STM	02061
STQUES	04467	STRNOW	01575	STSS	02062
SUPB20R	07050	SUPZR01	07014	SUPZR02	07025
SUPZR02	07026	SUPZR03	07036	SUPZR04	07043
SUPZR05	07047	SVB3		J2662	

SPURT OUTPUT NO. 211

J00\*1/22/65

PRINTOUT	LOC	LABEL	LOC	LABEL
SVB5	02663	SYNTIMING	63542	SYSCOMMREG1
SYSCOMMREG2	63453	SYSCOMMREG3	63454	SYSCOMMREG4
SYSCOMMREGS	63456	SYSCOMMREG6	63457	SYSSTATES
SYSNAMES	77700	SYSTAT1	63313	SYSTAT2
SYSTAT0	63315	TOPOFPAGE	03743	TOPORNUT
TOPLINE	06226	TOWERA	03455	TOREWQ
T1	02274	T2	02326	TALKHENRY
TAPEOUTPUT	03473	TAPEARMMSG	03225	TELLOONE
TELLHR	02036	TELLMIN	02045	TELLSEC
TELLTOP	01770	TEMP	02204	TENG816
TIME	02220	TIMEOK	00560	TIMECORR
TIMEMOE	63103	TIMEP	63435	TIMEOTORHO
TITLEENT	02027	TITLEKEY	04415	TRANS
TRANS1	04073	TRANS2	04076	TRANS3
TRANSLATE	04060	TRUERANGE	63063	TRUETIME
TRYAGAIN	03206	TIG	02063	TTISNEG
TTSTATUS	63111	TWORONE	00405	TWOSECOOP
TWENTYSIXS	06224	UNIT210	03257	UNITNO
UNITNOINT	03136	UNPACK	02623	UNPACKBUFF
UNPACKCODE	02677	UTAGSWITCH	02224	VARYUTAG
VELOFLIGHT	63335	VIZOEC1	63014	VIZOEC2
VIZRA1	63013	VIZRA2	63015	WOROCOUNT
WAIT1	03105	WAITPRINT	02717	WAKEUP
WFORD	63432	WFAOO	63450	WFREQ
WHATOO	00357	WHEREITGO	00450	WHICHCPGM
WISEGUY	01564	WLOOP	00044	WRITE
WRITEOUT	03756	WRITEAGAIN	03754	WRITEEOF
WRITESEROV	04032	WLLOOPX	01407	YEAR
YEARMONTH	63147	YRTRAN	633327	ZRTRAN

END OF LISTING

SPURT OUTPUT NO. 212

J00\* 1/22/65

PRINTOUT	LOC	LABEL	LOC	LABEL	LOC	LABEL
PRINTOUT	00000	NIL	00000	PORUN	00002	
FPERPAGE	00007	FILEDONE	00023	NOREW	00046	
RESTART	00042	WLOOP	00044	INSERT	00046	
STANDEOCSE	00071	STANOEDCSY	00073	NEWTITLE	00100	
ASKTIMES	00101	PAGESIZE	00102	CHCKENTM	00136	
LETSGO	00164	REVITAL	00166	SEARCHTAP	00173	
NWSRCHTP	00200	LAYUPLM	00202	KEEPON	00203	
AWAYEGO	00222	LAUNCHED	00234	BASICLOOP	00236	
NOTOPPAGE	00270	CARRION	00272	RESETCNF	00274	
NOTINSAM	00276	TOPRNTOF	00306	READLOOP	00320	
VARYUTAG	00321	BACKWOSA	00322	BACKWOSA	00325	
QWLOOP	00337	QNSERT	00341	SKIPOVER	00347	
WHATOO	00357	FNLOOP	00364	GOTHRU	00366	
SKIPPF	00376	TWODRONE	00405	FINALIZER	00410	
FMJMPBACK	00415	FMEDFS3	00424	JUMPBACK	00426	
NOWQUES	00427	CHOICEQUE S	00431	NOWANS	00443	
NOWWHAT	00447	WHERE TO GO	00450	NOGOTHRU	00451	
NOTID	00452	A\$\$\$\$\$1115	00453	A\$\$\$\$\$1116	00457	
A\$\$\$\$\$1117	00463	TTISNEG	00520	NOWNOTIME	00524	
CHECKWIN	00553	TIMEOK	00560	FILLCHAR	00575	
NOWDEC	00611	ISAU	00624	ISERADII	00637	
ARNO	00646	FORAZIM	00667	FORELEV	00700	
POSRNG	00740	NORRAHH	00745	BRNO	00760	
MORESTUFF	01154	LOOPX	01223	FORAZIN	01232	
FORELIN	01233	FORAZOUT	01266	FORELOUT	01307	
FOROOPPUT	01350	AOVANBI	01374	CNTRPT	01376	
ISIO	01403	WLLOOPX	01407	DAMIC	01411	
MOVER	01427	A\$\$\$\$\$1118	01430	PICKPGM	01477	
WHICHCPGM	01515	TALKHENRY	01521	ARNOHEAD	01525	
ARNOHENRY	01536	A\$\$\$\$\$111C	01537	MORELOOK	01545	
NOTZERO	01551	GETOUT	01554	ADJUSTBUFR	01561	
WISEGUY	01564	A\$\$\$\$\$1110	01565	STRTNOW	01575	
PGMTABLE	01577	STAYLATE	01627	CHKVLAP	01632	
KOVR LAP	01641	RB27	01642	PORA	01647	
HHCOL	01664	SIGNCOL	01672	RAPLUS	01674	
MMCOL	01676	SSCOL	01702	SSXXCOL	01706	
PTCOL	01712	BASICCOLRA	01715	POOEC	01716	
OOCOL	01733	SGNCOL	01741	DECPLUS	01743	
OMINCOL	01745	DSEICOL	01751	DSSXXCOL	01755	
OPTCOL	01761	BASICCOLC	01764	TENG816	01765	
FORROPA	01766	FORROPE	01767	TELLTOP	01770	
FILLBLNK	02004	FILLNEG	02005	EVERYN	02006	
SAYIT	02021	BRANDNEW	02025	SIMSWITCH	02026	
TITLECNT	02027	ASKHR	02030	TELLHR	02036	
ASMIN	02042	TELLMIN	02045	ASKSEC	02051	
TELLSEC	02054	STHR	02060	STM	02061	
STSS	02062	TTG	02063	D360B20	02064	
RAODEC	02065	INSERTA	02066	HOWMANY	02067	
HEAD	02070	HFAKEY	02126	MONTH	02127	
OAYS	02161	YEAR	02177	DAYNO	02200	
COMMA	E			TEMP	02204	

PR INTOUT		J00•1/22/65		SPURT OUTPUT No. 212	
LABEL	LOC	LABEL	LOC	LABEL	LOC
HOURS	02211	MINS	02212	SECS	02213
FOROOP	02214	NOPS	02215	OELTIME	02216
FX	02217	TIME	02220	MSWITCH	02221
IRSWITCH	02222	UTAGSWITCH	02224	OATASWITCH	02226
AZINSM	02230	ELINSM	02232	AZOUTSM	02234
ELOUTSM	02236	OOPOUTSM	02240	MYHEAD	02242
T1	02274	T2	02326	BIGT	02360
MYOUT	02406	PLORA	02502	PLOOEC	02503
PLORAOTUS	02504	PLORAOSOT	02505	PLORAOT	02506
PLOAZIM	02507	PLOELEV	02510	PLOCAZIM	02511
PLOTURNING	02512	PLORSA	02513	PLOSEC	02514
PLOC RANGE	02515	PLRNGOOT	02516	PLOEOOOT	02517
PLOSAZIM	02520	PLOSELEV	02521	PLOCLEV	02522
PLOSOTIME	02523	PLOSSYSTAT2	02524	PLOSSPARE1	02525
PL2RA	02526	PLURA	02552	PL6RA	02576
PL60EC	02577	PLRAOIJUS	02600	PL6RAOSOT	02601
PL6RAOOT	02602	PL6AZIM	02603	PL6ELEV	02604
PL6CAZIM	02605	PL6TRURNG	02606	PL6SRA	02607
PL6SOEC	02610	PL6CRANGE	02611	PL6RNGOOT	02612
PL60ECOOT	02613	PL6SAZIM	02614	PL6SELLEV	02615
PL6CELEV	02616	PL6SORTME	02617	PL6SYSTAT2	02620
PL6SPARE1	02621	INSERTX	02622	UNPACK	02623
PUTCOUNTER	02632	LOOPSTART	02644	GETPACK	02645
LOOP1	02646	STOREUNPAK	02650	LOOPLIMIT	02653
SVB3	02661	SVBL	02662	SVBS	02663
COUNTER	02664	PRINT	02665	SETUP	02672
UNPACKC00E	02677	STORECR	02707	STORELF	02711
CHGAOR	02714	WAITPRINT	02717	PRINTOVER	02720
JPPRINTOVR	02723	PRINTBUFFC	02724	BUFFERPRNT	02725
READTAPE	03074	INBUFFER	03101	WAIT1	03105
C15EXTINT	03105	INTERJUMP	03114	BACK	03115
INTERLOCK	03116	INTERLOCKP	03123	LOCKP	03131
UNITN0INT	03136	STATUSC00E	03137	MACHFAULT	03157
UNITN0	03171	FOSTAC00E	03176	JPC15EXT	03200
PARTITY	03201	TRYAGAIN	03206	PARITYMSG	03212
PMSG	03224	TAPEARMSG	03225	FOTAPEPAR	03240
WRITEOF	03253	UNIT210	03257	BAONNEWS	03260
MACHERR	03266	KOCTOFF	03304	QUMY	03320
EXCESS0	03322	STAT	03323	INPUTTAPENO	03324
EOTNEWS	03320	E0FNEWS	03343	ENOOFTAPM	03353
ENOTAPEH	03332	HSPOUTPUT	03370	BCOOUTPUT	03371
BCOQUES	03372	RCOANS	03406	ANSOUTPUT	03412
SAVEALL	03413	RSTORAL	03426	TOREWQ	03441
TOREWQ	03455	REWORN	03461	KPA	03462
KPQ	03463	KP1	03464	KP2	03465
KP3	03466	KP4	03467	KP5	03470
KP6	03471	KP7	03472	TAPEOUTPUT	03473
BCOBLOCK	03506	CARRIAGEC	03540	LA100UT	03541
TOPOFPAGE	03743	DOUBLESP	03744	SINGLES P	03745
WRITE	03746	WRITEAGAIN	03754	WRITE0UT	03756
HERE	03757	JPIINTERUP	03760	INTERRUPT	03761

SPURT OUTPUT No. 212  
JOO•1722/65

PRINTOUT	LOC	LABEL	LOC	LABEL	LOC	LABEL
INTJUMP	03766	BAOMCH	03767	REOUNANT	03772	
ENOTAPE	04001	INTERLCK	04006	CHANNEL	04011	
STATCODE	04012	WRITESERO	04032	NEWTAPE	04033	
WAKEUP	04044	TRANSLATE	04060	TRANS	04063	
TRANS 1	04073	TRANS2	04076	TRANS3	04077	
COUNT	04103	DICTIONARY	04104	PACK	04204	
PUTCOUNT	04210	LOOPSTART2	04224	LOOP2	04226	
GETCHAR	04227	STOREACK	04232	LOOPLIMIT2	04233	
WORCOUNT	04236	ENOTAPEU	04237	OECINOMS	04240	
OECSIGN	04271	0360B3	04272	OECOEG	04273	
OECMIN	04274	OECSEC	04275	OECSECXX	04276	
NEGSIGN	04277	DECPOINT	04300	RAINHH	04301	
024B3	04332	D60B 1	04333	RASIGN	04334	
RAHH	04335	RAMM	04336	RASS	04337	
RASSXX	04340	LABELA	04341	LBLABEL	04367	
TITLEKEY	04415	ANNTITLE	04416	PRINTTITLE	04424	
MUTE	04426	BEHEADED	04460	STQUES	04467	
STANS	04476	ANSSTTM	04502	ETQUES	04503	
ETANS	04512	QNSERTA	04516	ANSNOTM	04517	
COMPAREST	04520	COMPARET	04521	MAXETIME	04522	
OMSHRS	04523	DMSMINS	04524	OMSSECS	04525	
OMEHRS	04526	DMEMINS	04527	OMESECS	04530	
OMSSECTTG	04531	DMESECTG	04532	CSKEY	04533	
TELLOONE	04534	ASTARX	04541	ROCONV	04542	
ROPA	04544	RDPE	04545	ROPR	04546	
ROPS	04547	RDPG	04550	ROSTART	04551	
ROSETK	04607	RDINIT	04762	ROIINITD	05027	
ROWNEREV	05030	RD19BITS	05031	ROREVMASK	05032	
ROTHSIXTY	05033	RDAZ	05034	ROEL	05035	
RORANGE	05036	RDK 1	05037	ROK 11	05040	
ROK2	05041	RDK2 1	05042	ROTSF	05043	
ROCOSAZ	05044	ROSINAZ	05045	ROCOSEL	05046	
ROSINEL	05047	RDTWSEC	05050	ROSITEOR	05051	
ROCOSSITE	05052	RDSINSTE	05053	ROTEMP	05054	
ROFACT 1	05055	RDFACT2	05056	ROXSPRIME	05057	
ROYSPRIME	05060	RDZSPRIME	05061	ROSCALB4	05062	
RORAOTOOEG	05063	RDWNSEC	05064	OECOUT	05065	
RAOUT	05066	RDEGRAD	05067	RORAOTOREV	05070	
ROPHEE	05071	RDSINPHEE	05072	ROCOSPHEE	05073	
SQRT	05074	COS	05140	SIN	05151	
ATAN	05257	PINT	05362	PINTB	05406	
PINTC	05415	PINTEXIT	05424	PINTERR	05432	
PINTERRA	05433	PINTERI	05436	PINTERR2	05437	
POCT	05440	POCTA	05455	POCTB	05465	
POCTERR	05447	POCTERR1	05475	PFIX	05476	
PFIXB	05507	PFIXC	05523	PFIXO	05532	
PFIXF	05543	PFIXERR	05550	PFIXERRA	05551	
PFIXERR1	05555	PFIXERR2	05556	PF0	05557	
PFOA	05571	PFDB	05600	PF0C	05607	
PFOERR	05614	PFDERR1	05620	PBLANK	05621	
PBLANK05	05635	PBLANK1	05644	PBLANK2	05654	

SPURT OUTPUT NO. 212

JDO•1/22/65

PRINTOUT	LOC	LABEL	LOC	LABEL	LOC
PBLANK3	056662	PBLANK4	056665	PBLANK5	056666
PBLANK6	056667	PCOLR	05670	PCOLR1	05677
PCOLR2	05705	PCOLR3	05710	PCOLR4	05714
PCOLR5	05715	PCOLRGA	05716	PCOLIN	05717
PCOLIN1	05726	PCOLINIA	05735	PCOLIN2	05740
PCOLIN3	05744	PCOLIN4	05745	PCOLINS	05746
PIMAGE	05747	PIMAGE1	05766	PIMAGE2	05771
PIMAGE3	05772	PFORM	05773	OELTAO	06000
PFORMERR	06052	PFORBSTR	06054	PFORASTOR	06056
PSCRIB	06057	PSCRIBA	06067	PSCRIBB	06074
PSCRIBF	06101	PSCRIBH	06103	PSCRIBJ	06116
PSCRIBI	06121	PSCRIBW	06123	PSCRIBUF	06134
PSCRIBG	06144	PRSCRIBC	06147	PSCRIBERR	06162
PSCRIBSS	06163	PSCRINT	06202	PSCRATOR	06220
PSCRQSTOR	06221	PEXTINT	06222	PCOLUMN	06223
TWENTYSIXS	06224	BOTMARG	06225	TOPLINE	06226
BOTLINE	06227	LINCNT	06230	PRIN TWO	06231
PSCRIBC	06232	PSCRIBO	06233	PSCASTOR	06234
PSCQSTOR	06235	STATSTOR	06236	STATUS	06237
PSCRIBSSA	06240	PSCRIBSSB	06241	PSCRIBSSC	06242
PENTRY	06243	PENTA	06260	GETAO	06264
PLAYUP	06265	PLAYUPA	06301	PLAYUPB	06312
PLAYBSTOR	06315	LAYUPSTOR	06322	CHARVO	06252
PFRACSTOR	06526	PFRACA	06540	PFRACERR	06555
PFRACB	06560	PFRACERR1	06562	PSAVE	06563
PRESTORE	06576	PASTOR	06611	PQSTOR	06612
PERROR	06613	PERROR2	06623	PERROR4	06651
PERROR1	06654	PERROR15	06660	PERRORS	06662
PERROR9	06663	BINOECNT1	06664	BINOECNT1	06676
BINOECNT2	06677	BINOECNT4	06712	BINOECNT3	06714
BINOCTFL0	06715	BINOCTFL01	06721	BINOCTFL02	06722
BINOCTFL03	06731	BINOECFRA	06733	BINOECFRA1	06743
BINOECFRA2	06744	COFFIX	06756	COFFI	06772
COFFTEM1	07010	COFFTEM2	07011	COFXSTOR	07012
SUPZRO	07014	SUPZROI	07025	SUPZRO2	07026
SUPZRO3	07036	SUPZRO4	07043	SUPZRO5	07047
SUPBSTOR	07050	COFRY0	07053	COFRN04	07064
COFRN02	07066	COFRN03	07070	COFRN04	07074
COFRN04	07077	COFRN05	07102	COFRN05	07112
COFRN052	07117	COFRN06	07122	COFRN07	07125
COFRN08	07132	COFRN081	07141	COFRN09	07144
COFRN010	07150	COFRN011	07153	HIBIT	07157
SIXTY	07160	SIXTYFIVE	07161	M6L	07162
SEVENTYONE	07163	BITS	07164	FXCOOE	07165
SIXTIES	07166	GAMMA	07167	BETA	07170
INTEGER	07171	FRACTION	07172	SIGN	07173
EXPONENT	07174	FPFRACTION	07175	10INTEGER	07176
INFRACTION	07200	10EXPONENT	07202	EXP SIGN	07203
UNPACKBUFF	07204	PACKBUFF	07205	PREGION	07206
PBUF	07274	ASSSSSS111	07476	ASSSSSS112	07477
ASSSSSS113	07500	ASSSSSS114	07501	ASSSSSS118	07502

SPURT OUTPUT NO. 212

PRINTOUT	LOC	LABEL	LOC	LABEL	LOC	LABEL
		J00=1/22/65				
ASSSS\$1119	07503	ASSSS\$111A	07504	ASSSS\$111E	07505	
ASSSS\$111F	07506	ASSSS\$111G	07507	ASSSS\$111H	07510	
ASSSS\$111I	07511	ASSSS\$111J	07512	ASSSS\$111K	07513	
ASSSS\$111L	07514	I01CELCOR	63000	DATA	63000	
I02CELCOR	63001	RA	63002	OEC	63003	
SRA	63004	SOEC	63005	RADIUS	63006	
RA00T	63007	OECOOT	63010	RADIOUSOT	63011	
SIOERTIME	63012	VIZRA1	63013	VIZOEC1	63014	
VIZRA2	63015	VIZOEC2	63016	TWOSECOP	63017	
I01RAOCOR	63050	I02RAOCOR	63051	RANGE	63052	
AZIM	63053	ELEV	63054	SAZIM	63055	
SELEV	63056	CRANGE	63057	CAZIM	63060	
CELEV	63061	RANGE00T	63062	TRUERANGE	63063	
SINORIENT	63064	COSORIENT	63065	SINAZEL	63066	
COSAZEL	63070	ACQAZIM	63071	ACQUELEV	63075	
FRAMESIZE	63101	RAIOMETER	63102	TIME00E	63103	
FIRSTEL EV	63104	ASTRORA	63105	ASTRO0EC	63106	
TIMECURR	63107	KYBROLEVEL	63110	TTYSTATU	63111	
RECORDSIZE	63112	CELBOOY	63113	AZOIFS	63120	
ELOIFS	63121	ROIFS	63122	ROOTOIFS	63123	
SLAVEOPTS	63124	SLAVEMOOES	63125	SLAVE	63126	
I01TIME	63130	I02TIME	63131	TRUE TIME	63132	
CELLTIME	63133	SCETIME	63134	CONVENT ME	63135	
SRA0TIME	63136	HOURMINUTE	63137	SEGONS	63140	
OSECONOS	63141	ACTUALTIME	63142	ESTSHIFTEO	63143	
GMTSHIFTEO	63144	GMTMOUD24	63145	BLASTOFF	63146	
YEARMONTH	63147	DAY	63150	HOURREG	63151	
MINREG	63152	FIRSTTHRU	63153	OJMSECTIG	63154	
RECROSWTCH	63155	RELEASESW	63156	RAINOIC	63157	
PRINRECSW	63160	I01RECREO	63210	I02RECREO	63211	
RECFILE	63212	I01SYSPAR	63310	I02SYSPAR	63311	
RAOARMOE	63312	SYSTATI	63313	SYSTAT2	63314	
SYSTATO	63315	DELTATEE	63316	FREQUENCY	63317	
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SKIP	63331	MSFREQ	63332	FFREQ	63333	
MAINSWITCH	63334	VEOLFIGHT	63335	LSPERAU	63336	
CHCOR	63422	NMPERFLAT	63340	AUPERFLAT	63341	
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ROMTR	63432	MCPGM	63412	INTER	63413	
I02ENTPNT	63411	RECRD	63415	AOSCN	63416	
COCON	63414	CORCT	63420	OYOMP	63421	
AESCN	63417	PRLOS	63423	CELCOMP64	63424	
		INTERCOM	63426	ACQUI	63427	
		CHPAR	63431	WFURO	63432	
		PLANP	63434	TIMEP	63435	
		I01RAO10	63440	I02RAO10	63441	
		ELEVAA	63443	OPPAOO	63444	
		INAZIMAO	63446	INELEVAOO	63447	
		WFLA00	63451	SYSCOMREGI	63452	

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PRINTOUT

LABEL	LOC	LABEL	LOC	LABEL	LOC
SYSCOMMREG2	63453	SYSCOMMREG3	63454	SYSCOMMREG4	63455
SYSCOMMREG5	63456	SYSCOMMREG6	63457	INTERCLKSM	63460
PREVIOUSTM	63461	BOOSIZE	63462	AZELBSCAN	63500
AZMTHSCAN	63501	ELVNTNSCAN	63502	RADCBXSCAN	63503
RASCNTNSCAN	63504	OECINNSCAN	63505	ALNGACRSCN	63506
AEBOXLINES	63507	ROBOXLINE S	63510	HOLONOHOLD	63511
AZIMOFFSET	63512	ELEVOFFSET	63513	RAOFFSET	63514
OECOFFSET	63515	CROSSOFFSET	63516	ALNOFFSET	63517
TIMETOHOLD	63520	PERIOELEV	63521	ARCOFELEV	63522
PERIOOAZIM	63523	ARCOFAZIM	63524	PERIOOEC	63525
ARCOFOC	63526	PERIOORA	63527	ARCOFRA	63530
RAODECOTIME	63531	AZELOTIME	63532	RAOTORA	63540
RAO100EC	63541	SYNTIMING	63542	103RA010	63776
104RA010	63777	AZIMOUT	64000	105RA010	64776
106RA010	64777	ELEVOUT	65000	107RA010	65776
10BRA010	65777	OPPOUT	66000	109RA010	66776
1010RA010	66777	RECAZIM	67000	101RA010	67776
1012RA010	67777	RECLEV	70000	1D13RA010	70775
1014RA010	70776	RANGEOUT	70777	MCPFILLER	71000
0ATA2	71000	1015RA010	71776	1016RA010	71777
INTERAZIM	72000	AZOUTEQ	72000	1017RA010	72776
10IBRA010	72777	INTERLEV	73000	ELOUTEQ	73000
1019RA010	73776	1020RA010	73777	OPDOUTEQ	74000
INTEROOPP	74000	1021RA010	74777	1022RA010	74777
AZINEQ	75000	AZIMIN	75000	1023RA010	75776
1024RA010	75777	ELEVIN	76000	ELINEQ	76000
1025RA010	76775	1026RA010	76776	INTERRANGE	76777
101SYSENT	77576	102SYSENT	77577	SYSENTRIES	77600
101SYSNAME	77676	102SYSNAME	77677	SYSNAME\$	77700

END OF LISTING

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13. ABSTRACT  During the operation of the Haystack Pointing System, variable amounts of system generated data are recorded on magnetic tape for purposes of later reconstruction of the pointing aspect of the experiment. The Print Program, a pseudo-celestial computation program, is the means whereby this system data, recorded during actual system operation or during a system planning run, is reconstituted in the form of print-outs for immediate inspection or as BCD magnetic tape equivalents of the print-outs for remote printing and for input to other programs. The Print Program provides a variety of operation options which can be altered dynamically.		
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